

Radio's

MASTER ENCYCLOPEDIA

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Radio's "MASTER" Encyclopedia

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What to Buy and Where to Buy It

- ILLUSTRATIONS
- SPECIFICATIONS
- DESCRIPTIONS
- PRICES

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Radiola

MADE BY RCA MANUFACTURING COMPANY, INC., CAMDEN, NEW JERSEY, U. S. A.

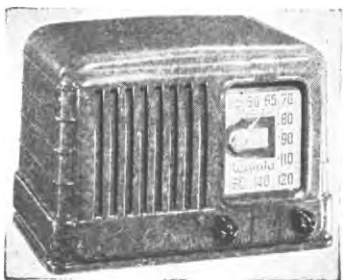
RADIOLA MODEL 500 — An outstanding performer at a popular price. Beautiful molded mahogany plastic cabinet. Has Powerful 5-Tube Superheterodyne Circuit, 3-Color Edge-lighted Dial, Electro-Dynamic Speaker, Automatic Sensitivity Control, Beam Power Output, Built-in "Hank" Antenna and beautiful tone quality. Uses 5 RCA Preferred-type Tubes. A new Double-pointer Drum-type Dial makes station selection easy. Tuning range 540 to 1720 kc. AC-DC operation. H 5", W 4 1/2", D 4 1/4". LIST PRICE \$9.95



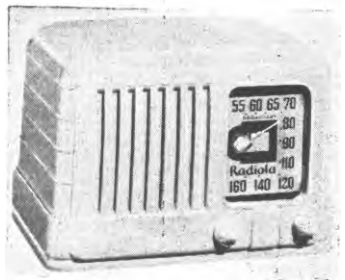
RADIOLA MODEL 512 — A modern cabinet newly styled, with top and ends of striped mahogany veneer adds new beauty to this fine performing Radiola. Uses 6 tuned circuits with the 5" Electro-Dynamic Speaker for superb performance. 5 RCA Preferred-type Tubes. Has Automatic Sensitivity Control, Beam Power Output, 11:1 Vernier Tuning, and Large Built-in Tuned Loop. Easy-to-Read Clock-type Dial plus Fire Underwriters' Approval are important features. Tuning range 540-1600 kc. AC-DC operation. H 7 3/8", W 13 1/2", D 6". LIST PRICE \$17.95



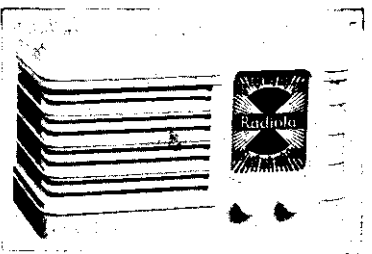
RADIOLA MODEL 510 — An attractive molded mahogany plastic cabinet with tear drop knobs to match makes this model unusually attractive. Uses 6 tuned circuits with the 5" Electro-Dynamic Speaker for superb performance. 5 RCA Preferred-type Tubes. Has Automatic Sensitivity Control, Beam Power Output, 11:1 Vernier Tuning, and Large Built-in Tuned Loop. Easy-to-Read Clock-type Dial plus Fire Underwriters' Approval are important features. Tuning range 540-1600 kc. AC-DC operation. H 6 1/2", W 9 3/8", D 5 7/8". LIST PRICE \$12.95



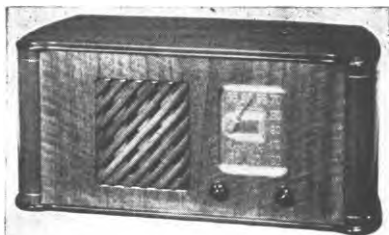
RADIOLA MODEL 511 — An attractive plastic cabinet in a beautiful antique ivory finish makes this model excellent for many home locations. Has 6 tuned circuits with the 5" Electro-Dynamic Speaker for superb performance. Uses 5 RCA Preferred-type Tubes, Automatic Sensitivity Control, Beam Power Output, 11:1 Vernier Tuning, and Large Built-in Tuned Loop. Easy-to-Read Clock-type Dial plus Fire Underwriters' Approval are important features. Tuning range 540-1600 kc. AC-DC operation. H 6 1/2", W 9 3/8", D 5 7/8". LIST PRICE \$14.95



RADIOLA MODEL 501 — A beautiful antique ivory finish makes this an ideal unit for bedroom, kitchen or other home locations. Has Powerful 5-Tube Superheterodyne Circuit, 3-Color Edge-lighted Dial, Electro-Dynamic Speaker, Automatic Sensitivity Control, Beam Power Output, Built-in "Hank" Antenna and beautiful tone quality. Uses 5 RCA Preferred-type Tubes. A new Double-pointer Drum-type Dial makes station selection easy. Tuning range 540 to 1720 kc. AC-DC operation. H 5", W 8 1/2", D 4 1/4". LIST PRICE \$12.95



RADIOLA MODEL 513 — A deluxe modern wood cabinet. Heart walnut top and a front panel of Oriental wood adds distinction to this instrument. Uses 6 tuned circuits with the 5" Electro-Dynamic Speaker for superb performance. 5 RCA Preferred-type Tubes. Has Automatic Sensitivity Control, Beam Power Output, 11:1 Vernier Tuning, and Large Built-in Tuned Loop. Easy-to-Read Clock-type Dial plus Fire Underwriters' Approval are important features. Tuning range 540-1600 kc. AC-DC operation. H 7 1/2", W 15 3/8", D 6 3/4". LIST PRICE \$19.95



PORTABLE RADIOLA MODEL P-5 — Operates from either battery or 110-volt house current, AC or DC. Has simulated leather cabinet that is both durable and washable. Includes Built-in Tuned Loop; 5 RCA Preferred-type Tubes, 5" Alnico Permanent Magnet Dynamic Speaker; On-and-Off Indicator, Easy-to-Read Dial, and many other important features. Tuning range 540 to 1720 kc. A sensitive superheterodyne circuit makes station selection easy. H 7 1/2", W 15 3/8", D 6 3/4". LIST PRICE (Complete with Batteries) \$24.95



WRITE FOR SPECIAL DEALER PRICES

RCA Victor RADIO TUBES

Type	List Price	Type	List Price	Type	List Price	Type	List Price	Type	List Price	Type	List Price
0A4G	\$1.85	2A7	1.00	*6F5	1.00	†*6SA7	.90	12A8GT	.90	35A5(LT)	1.20
*0Z4	1.50	2B7	1.20	6F5G	1.00	6SA7GT	1.00	12B8GT	1.50	†35L6GT	.90
0Z4G	1.50	2V3G	2.75	6F5GT	.90	†6SC7	1.20	†12C8	1.85	35Z3(LT)	1.20
1A4P	1.50	2X2/879	2.25	*6F6	1.00	†6SF5	.90	12F5GT	.90	35Z4GT	.70
1A5G	1.50	3A8GT	2.25	†6F6G	.80	†6SJ7	1.00	12J5GT	.90	†35Z5GT	.75
1A5GT	1.00	†3Q5GT	1.50	6F7	1.50	†6SK7	.90	12J7GT	1.00	36	.90
1A6	1.20	*5T4	1.85	6F8G	1.20	6SK7GT	1.00	12K7GT	.90	37	.75
1A7G	1.50	†5U4G	.90	6G6G	1.20	†6SQ7	.90	*12K8	1.50	38	1.00
†1A7GT	1.20	5V4G	1.50	†6H6	1.00	6SQ7GT	1.00	12Q7GT	.80	39/44	.90
1B4P	1.20	*5W4	1.00	6H6G	1.00	†6SR7	1.00	†12SA7	.90	41	.75
1B5/25S	1.20	5W4GT	.80	6H6GT	1.00	6T7G	1.20	12SA7GT	1.20	42	.75
1C5G	1.50	5X4G	1.00	†6J5	.80	†6U7/6G5	1.20	†12SC7	1.20	43	1.00
1C5GT	1.20	†5Y3G	.60	6J5G	.90	6U7G	.90	*12SF5	1.00	45	.70
1C6	1.20	5Y4G	.65	†6J5GT	.80	*6V6	1.85	†12SJ7	1.00	45Z5GT	1.00
1C7G	1.20	5Z3	1.00	*6J7	1.20	6V6G	1.20	†12SK7	.90	46	1.00
1D5GP	1.20	*5Z4	1.20	6J7G	1.00	†6V6GT	1.00	12SK7GT	1.00	47	1.00
1D7G	1.50	6A3	1.85	6J7GT	1.00	6W7G	1.50	†12SQ7	.90	48	2.75
1D8GT	1.85	6A4/LA	1.50	6J8G	1.50	*6X5	1.50	12SQ7GT	1.00	49	1.20
1E5GP	1.50	6A6	1.50	6K5G	1.00	6X5G	1.00	*12SR7	1.20	50	2.25
1E7G	2.25	6A7	.90	6K6G	1.00	†6X5GT	.90	12Z3	.90	†50L6GT	1.00
1F4	1.20	*6A8	1.20	†6K6GT	.90	6Y6G	1.50	15	1.85	50Y6GT	1.00
1F5G	1.20	6A8G	.90	*6K7	1.00	6Y7G	1.50	19	1.20	53	1.50
1F6	1.50	6A8GT	.90	6K7G	1.00	6Z7G	1.85	24A	.80	55	1.00
1F7GV	1.50	6AB5/6N5	1.50	6K7GT	.90	6ZY5G	1.20	*25A6	1.85	56	.70
†1G4G	1.20	†6AB7/1853	1.85	*6K8	1.20	7A4	1.20	25A6G	1.00	57	.80
1G5G	1.20	6AC5G	1.20	6K8GT	1.20	7A5	1.20	25A7G	1.50	58	.80
†1G6G	1.50	6AC5GT	1.00	6L5G	1.00	7A6	1.20	25AC5GT	1.50	59	1.50
1H4G	.90	†6AC7/1852	2.25	*6L6	1.85	7A7(LM)	1.20	25B6G	1.85	70L7GT	1.85
1H5G	1.20	6AD6G	1.50	6L6G	1.85	7A8	1.20	25B8GT	1.85	71A	.80
†1H5GT	1.00	6AD7G	1.50	*6L7	1.50	7B5(LT)	1.20	*25L6	1.50	75	.75
1H6G	1.20	6AE5GT	1.20	6L7G	1.50	7B5(LM)	1.20	25L6G	1.20	76	.80
1J6G	1.20	6AE6G	1.20	6N5	1.50	7B7	1.20	25L6GT	1.00	77	.80
1N5G	1.50	6AF6G	1.50	6N6G	2.25	7B8(LM)	1.20	25Z5	.90	78	.80
†1N5GT	1.20	*6AG7	2.25	*6N7	1.50	7C5(LT)	1.20	*25Z6	1.20	79	1.50
1P5GT	1.50	6B5	1.85	†6N7G	1.50	7C6	1.20	25Z6G	.90	80	.60
1Q5GT	1.50	6B6G	1.00	6P5G	.75	7C7	1.20	25Z6GT	.90	81	1.85
1R5	1.50	6B7	1.20	65GT	.70	7E6	1.20	26	.65	82	1.20
1S4	1.50	*6B8	1.85	*6Q7	1.20	7E7	1.20	27	.60	83	1.20
1S5	1.50	†6B8G	1.20	6Q7G	.80	7F7	1.50	30	.90	83V	1.85
1T4	1.50	*6C5	1.00	6Q7GT	.80	7G7/1232	1.85	31	.90	64/6Z4	1.00
1T5GT	1.50	6C5G	.90	*6R7	1.50	717	1.85	32	1.20	85	.80
1V	.90	6C6	.90	6R7G	1.00	7Y4	1.20	33	1.20	89	.90
†2A3	1.85	6C8G	1.50	6R7GT	.80	10	2.75	34	1.20	117L7GT	2.25
2A4G	2.75	6D6	.90	*6S7	1.50	12A7	1.85	35	.90	117N7GT	2.25
2A5	.90	6D8G	1.50	6S7G	1.50					117Z6GT	1.50
2A6	.90	6E5	1.00								

*Before Type Number Indicates Metal Tube.
 †Before Type Number Indicates Current "Preference List" Type.

SERVICE ENGINEERS' PENCILS



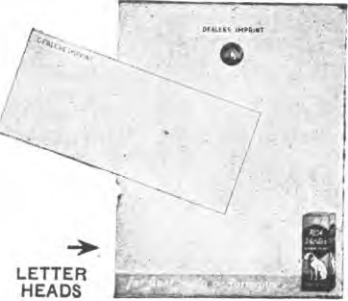
POSTCARDS

All the material shown here is included at NO EXTRA COST in the Authorized RCA Victor Tube Dealer Franchise and Franchise Package.

PRICE TAGS



DECALCOMANIAS



LETTER HEADS

for finer radio performance



Radiotron



No. 694—Decalcomania; two-color; for store or car. FREE on request.



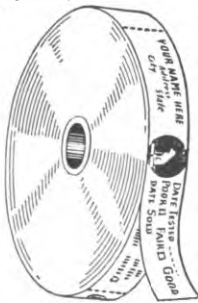
No. 318—Bill Head, Imprinted, \$1.00 for 500.



No. 1416—Service Engineer's Pencil. \$1.00.



No. 698—O.K. Tags. FREE on request.



No. 1402—Metal and Glass Tube Test Stickers. \$1.00 per roll imprinted.



No. HB-3—Tube Handbook. Sold by subscription only.

No. 651—Calling Cards. Imprinted two colors, \$1.00 for 500.



No. 696—Repair Ticket. Imprinted, \$0.85 for 300; \$2.25 for 1000.



Telephone Mpls. 3136-W
BERNARD L. COOK
PROFESSIONAL RADIO SERVICE
26 HINSET AVENUE MEDFORD, MASS.

STANDARD GLASS TYPES

Type	List Price	Type	List Price	Type	List Price
1A4P	\$1.50	6D6	\$.90	45	\$.70
1A6	1.20	6E5	1.00	46	1.00
1B4P	1.20	6F7	1.50	47	1.00
1B5/25S	1.20	6N5	1.50	48	2.75
1C6	1.20	*6U5/6G5	1.20	49	1.20
1F4	1.20	10	2.75	50	2.25
1F6	1.50	12A7	1.85	53	1.50
1R5	1.50	12Z3	.90	55	1.00
1S4	1.50	15	1.85	56	.70
1S5	1.50	19	1.20	57	.80
1T4	1.50	24A	.80	58	.80
1-V	.90	25Z5	.90	59	1.50
2A3	1.85	26	.65	71A	.80
2A5	.90	27	.60	75	.75
2A6	.90	30	.90	76	.80
2A7	1.00	31	.90	77	.80
2B7	1.20	32	1.20	78	.80
2X2/879	2.25	33	1.20	79	1.50
5Z3	1.00	34	1.20	80	.60
6A3	1.85	35	.90	81	1.85
6A4/LA	1.50	36	.90	82	1.20
6A6	1.50	37	.75	83	1.20
6A7	.90	38	1.00	83-V	1.85
6AB5/6N5	1.50	39/44	.90	84/6Z4	1.00
6B5	1.85	41	.75	85	.80
6B7	1.20	42	.75	89	.90
6C6	.90	43	1.00		

ALL-METAL TYPES

OZ4	1.50	6K7	1.00	6V6	1.85
5T4	1.85	6K8	1.20	6X5	1.50
5W4	1.00	6L6	1.85	12C8	1.85
5Z4	1.20	6L7	1.50	12K8	1.50
6A8	1.20	6N7	1.50	*12SA7	.90
*6AB7/1853	1.85	6Q7	1.20	*12SC7	1.20
*6AC7/1852	2.25	6R7	1.50	12SF5	1.00
*6AG7	2.25	6S7	1.50	12SJ7	1.00
6B8	1.85	*6SA7	.90	*12SK7	.90
6C5	1.00	*6SC7	1.20	*12SO7	.90
6F5	1.00	*6SF5	.90	12SR7	1.20
6F6	1.00	*6SJ7	1.00	25A6	1.85
*6H6	1.00	*6SK7	.90	25L6	1.50
*6J5	.80	*6SQ7	.90	25Z6	1.20
6J7	1.20	6SR7	1.00		

G-SERIES TYPES

0A4G	1.85	*5Y3G	.60	6N6G	2.25	7F7	1.50
0Z4G	1.50	5Y4G	.65	6N7G	1.50	7G7/1232	1.85
1A5G	1.50	6A8G	.90	6P5G	.75	7J7	1.85
1A5GT	1.00	6A8GT	.90	6P5GT	.70	7Y4	1.20
1A7G	1.50	6AC5G	1.20	6Q7G	.80	12A8GT	.90
*1A7GT	1.20	6AC5GT	1.00	6Q7GT	.80	12B8GT	1.50
1C5G	1.50	6AD6G	1.50	*6R7G	1.00	12F5GT	.90
1C5GT	1.20	6AD7G	1.50	6R7GT	.80	12J5GT	.90
1C7G	1.20	6AE5GT	1.20	6S7G	1.50	12J7GT	1.00
1D5GP	1.20	6AE6G	1.20	6SA7GT	1.00	12K7GT	.90
1D7G	1.50	6AF6G	1.50	6SK7GT	1.00	12Q7GT	.80
1D8GT	1.85	6B6G	1.00	6SQ7GT	1.00	12SA7GT	1.20
1E5GP	1.50	*6B8G	1.20	6T7G	1.20	12SK7GT	1.00
1E7G	2.25	6C5G	.90	6U7G	.90	12SQ7GT	1.00
1F5G	1.20	6C8G	1.50	6V6G	1.20	25A6G	1.00
1F7GV	1.50	6D8G	1.50	*6V6GT	1.00	25A7G	1.50
1G4G	1.20	6F5G	1.00	6W7G	1.50	25AC5GT	1.50
1G5G	1.20	6F5GT	.90	*6X5G	1.00	25B6G	1.85
1G6G	1.50	*6F6G	.80	6X5GT	.90	25B8GT	1.85
1H4G	.90	6F8G	1.20	6Y6G	1.50	25L6G	1.20
1H5G	1.20	6G6G	1.20	6Y7G	1.50	*25L6GT	1.00
*1H5GT	1.00	6H6G	1.00	6Z7G	1.85	25Z6G	.90
1H6G	1.20	6H6GT	1.00	6ZY5G	1.20	*25Z6GT	.90
1J6G	1.20	*6J5G	.90	7A4	1.20	32L7GT	1.85
1N5G	1.50	6J5GT	.80	7A5	1.20	35A5	1.20
*1N5GT	1.20	6J7G	1.00	7A6	1.20	*35L6GT	.90
1P5GT	1.50	6J7GT	1.00	7A7	1.20	35Z3	1.20
1Q5GT	1.50	6J8G	1.50	7A8	1.20	*35Z4GT	.70
1T5GT	1.50	6K5G	1.00	7B5(LT)	1.20	*35Z5GT	.75
2A4G	2.75	6K6G	1.00	7B6(LM)	1.20	45Z5GT	1.00
2V3G	2.75	*6K6GT	.90	7B7	1.20	*50L6GT	1.00
3A8GT	2.25	6K7G	1.00	7B8(LM)	1.20	50Y6GT	1.00
*3Q5GT	1.50	6K7GT	.90	7C5(LT)	1.20	70L7GT	1.85
*5U4G	.90	6K8GT	1.20	7C6	1.20	117L7GT	2.25
5V4G	1.50	6L5G	1.00	7C7	1.20	117N7GT	2.25
5W4GT	.80	6L6G	1.85	7E6	1.20	117Z6GT	1.50
5X4G	1.00	6L7G	1.50	7E7	1.50		

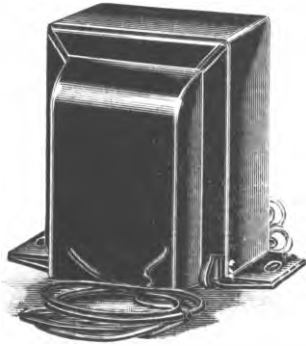
*Before Type Number Indicates "Preferred List" Type.

**QUICKER START—QUIETER OPERATION—UNIFORM VOLUME—
UNIFORM PERFORMANCE AND SEALED CARTON PROTECTION**



TRANSFORMERS AND ACCESSORIES

Universal Interstage A-F Transformer

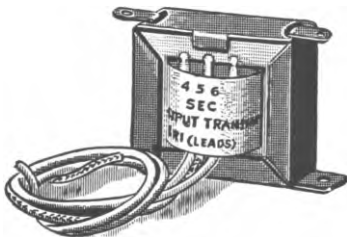


Permits all audio replacements with a single unit. Center tapped primary and center tapped secondary for connecting either from or to any single or push-pull stage. Easily mounted on any type of chassis. Also recommended to step up pickup output for use with low gain amplifiers. **Specifications:** SIZE—2 x 2 3/8 x 2 7/8 in. Shielded black finish case—

vacuum wax impregnated. **TURN RATIO**—Primary to secondary 1:3 overall. **PRIMARY CURRENT**—10 milliamperes d.c. (max.) **FREQUENCY RESPONSE**—30-10,000 cycles. **PRIMARY CONNECTIONS**—Primary connects to any single or push-pull triode. Secondary, to any single or push-pull stage regardless of tube type.

No. 9632, Net Price \$1.20

UNIVERSAL OUTPUT TRANSFORMERS



Fits any combination of tubes and speakers ordinarily encountered in service work. Quickly mounted by means of slot angle brackets; silicon steel core; windings protected with a baked varnish impregnation.

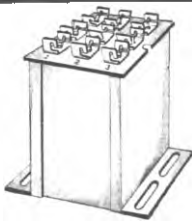
Tinned terminals and long primary leads. **Specifications:** SIZE—Standard Model—2 3/4 x 2 1/4 x 2 in. Tropical Model—2 3/4 x 2 3/8 x 3 in. **VOICE COIL IMPEDANCES**—1 to 15 ohms. **PRIMARY LOAD IMPEDANCES**—1,000 to 20,000 ohms. **MAXIMUM WORKING POTENTIAL**—500 volts. **MAXIMUM PLATE CURRENT** (each tube) — 55 milliamperes. **FREQUENCY RANGE**—30 to 10,000 cycles.

No. 7852, Net Price \$1.20

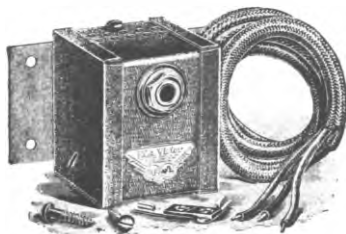
SPECIAL TROPICAL MODEL

Same transformer as above, in a special case having vacuum wax impregnated windings and complete potting in asphalt, for use under the most severe climatic conditions.

No. 7853, Net Price \$1.41



RCA EARPHONE ADAPTOR



A handy unit for connecting hearing aids or headphones to any radio. Has three positions—one for radio alone, one for both earphones and radio, and one for earphones alone. Easily connected across voice coil and gives proper impedance match. Finished in attractive brown wrinkle lacquer and fitted with 36 inch cable and terminal block.

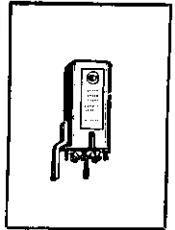
No. 9715, Net Price \$2.10

MULTI-RANGE WAVE TRAP

Attenuation at tuning frequency 40-1 (average) over entire broadcast band! Frequency Range 450 KC to 2,100 KC.

For those receivers and locations that are troubled by unwanted interference or inadequate reception of certain stations, the RCA Multi-Range Wave Trap will be found the logical answer. This new unit is tuned by means of a magnetite core which provides a simple linear and permanent adjustment. The RCA Multi-Range Wave Trap is adequately shielded for protection against interference and reaction with receiver circuits. Its small size and simple mounting make it easy to install.

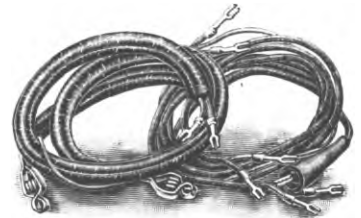
No. 33033, Net Price \$1.11



OSCILLOGRAPH CONNECTING CABLES

For connecting between your oscillograph, test oscillator and radio chassis, you need low capacity shielded cable with handy connecting clips. No. 9797 assembly consists of three shielded cables designed especially for this use. A necessity for everyone using the oscillographic method of alignment.

No. 9797, Net Price \$1.50



RCA VICTOR SERVICE NOTES

Eight volumes covering complete service information on all RCA Radiola, Victor Talking Machine Co. and RCA Victor and service test equipment produced from 1923 until 1939. Contain not only all wiring diagrams but also complete alignment instructions and other details available from no other source.

No. 100—1923-1928 No. 104—1934
No. 101—1929-1930 No. 105—1935
No. 102—1931-1932 No. 106—1936
No. 103—1933 No. 107—1937

No. 108—1938
Net Price, each volume \$1.25

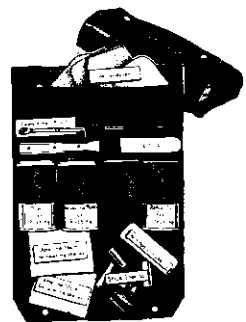


RCA VICTOR CABINET REFINISHING KIT

Here is a kit that should be a part of every service engineer's equipment. Every customer appreciates a nice clean piece of furniture and you can sell this service for a good price if you have and use this kit. Entire contents packed in a durable leatherette case with snap buttons. Contains one each of the following:

Can Refeco oil Can Tripoli
Can rubbing oil Assorted Sandpaper
Assorted stick shellac Touch-up brush
Spatula Rubbing block
Two packages of anti-line stain powders Instruction sheet

No. 9546, Net Price \$2.90

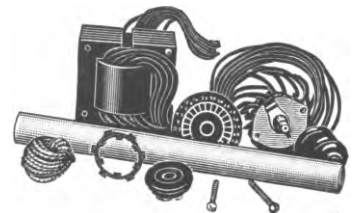


TUBE TESTER MODERNIZATION KIT

Bring your RCA Tube Tester Model 156 or 156A up to date with this kit. Makes it the equivalent electrically of the Model 156B or C. Contains transformer (filament voltages up to 120), switch, escutecheon, adaptor, and all fittings except "Loktal" type adaptor.

No. 9901—Tube Tester Modernization Kit, Net Price \$6.25

No. 9863—Loktal Socket Kit (illustrated and designed for Loktal Tubes unless adaptor is used), Net Price50



Cunningham Radio Tubes

STANDARD SINCE 1915

STANDARD GLASS TYPES

Type	List Price	Type	List Price	Type	List Price
1A4P	\$1.50	6D6	\$.90	45	\$.70
1A6	1.20	6E5	1.00	46	1.00
1B4P	1.20	6F7	1.50	47	1.00
1B5/25S	1.20	6N5	1.50	48	2.75
1C6	1.20	*6U5/6G5	1.20	49	1.20
1F4	1.20	10	2.75	50	2.25
1F6	1.50	12A7	1.85	53	1.50
1R5	1.50	12Z3	.90	55	1.00
1S4	1.50	15	1.85	56	.70
1S5	1.50	19	1.20	57	.80
1T4	1.50	24A	.80	58	.80
1-V	.90	25Z5	.90	59	1.50
2A3	1.85	26	.65	71A	.80
2A5	.90	27	.60	75	.75
2A6	.90	30	.90	76	.80
2A7	1.00	31	.90	77	.80
2B7	1.20	32	1.20	78	.80
2X2 879	2.25	33	1.20	79	1.50
5Z3	1.00	34	1.20	80	.60
6A3	1.85	35	.90	81	1.85
6A4 LA	1.50	36	.90	82	1.20
6A6	1.50	37	.75	83	1.20
6A7	.90	38	1.00	83-V	1.85
6AB5 6N5	1.50	39 44	.90	84/6Z4	1.00
6B5	1.85	41	.75	85	.80
6B7	1.20	42	.75	89	.90
6C6	.90	43	1.00		

ALL-METAL TYPES

OZ4	1.50	6K7	1.00	6V6	1.85
5T4	1.85	6K8	1.20	6X5	1.50
5W4	1.00	6L6	1.85	12C8	1.85
5Z4	1.20	6L7	1.50	12K8	1.50
6A8	1.20	6N7	1.50	*12SA7	.90
*6AB7/1853	1.85	6Q7	1.20	*12SC7	1.20
*6AC7/1852	2.25	6R7	1.50	12SF5	1.00
*6AG7	2.25	6S7	1.50	12SJ7	1.00
6B8	1.85	*6SA7	.90	*12SK7	.90
6C5	1.00	*6SC7	1.20	*12SQ7	.90
6F5	1.00	*6SF5	.90	12SR7	1.20
6F6	1.00	*6SJ7	1.00	25A6	1.85
*6H6	1.00	*6SK7	.90	25L6	1.50
*6J5	.80	*6SQ7	.90	25Z6	1.20
6J7	1.20	6SR7	1.00		

G-SERIES TYPES

O44G	1.85	*5Y3G	.60	6N6G	2.25	7F7	1.50
OZ4G	1.50	5Y4G	.65	6N7G	1.50	7G7 1232	1.85
1A5G	1.50	6A8G	.90	6P5G	.75	7J7	1.85
1A5GT	1.00	6A8GT	.90	6P5GT	.70	7Y4	1.20
1A7G	1.50	6AC5G	1.20	6Q7G	.80	12A8GT	.90
*1A7GT	1.20	*6AC5GT	1.00	6Q7GT	.80	12B8GT	1.50
1C5G	1.50	6AD6G	1.50	*6R7G	1.00	12F5GT	.90
1C5GT	1.20	6AD7G	1.50	6R7GT	.80	12J5GT	.90
1C7G	1.20	6AE5GT	1.20	6S7G	1.50	12J7GT	1.00
1D5GP	1.20	6AE6G	1.20	6SA7GT	1.00	12K7GT	.90
1D7G	1.50	6AF6G	1.50	6SK7GT	1.00	12Q7GT	.80
1D8GT	1.85	6B6G	1.00	6SQ7GT	1.00	12SA7GT	1.20
1E5GP	1.50	*6B8G	1.20	6T7G	1.20	12SK7GT	1.00
1E7G	2.25	6C5G	.90	6U7G	.90	12SQ7GT	1.00
1F5G	1.20	6C8G	1.50	6V6G	1.20	25A6G	1.00
1F7GV	1.50	6D8G	1.50	*6V6GT	1.00	25A7G	1.50
1G4G	1.20	6F5G	1.00	6W7G	1.50	25AC5GT	1.50
1G5G	1.20	*6F5GT	.90	*6X5G	1.00	25B6G	1.85
1G6G	1.50	*6F6G	.80	6X5GT	.90	25B8GT	1.85
1H4G	.90	6F8G	1.20	6Y6G	1.50	25L6G	1.20
1H5G	1.20	6G6G	1.20	6Y7G	1.50	*25L6GT	1.00
*1H5GT	1.00	6H6G	1.00	6Z7G	1.85	25Z6G	.90
1H6G	1.20	6H6GT	1.00	6ZY5G	1.20	*25Z6GT	.90
1J6G	1.20	*6J5G	.90	7A4	1.20	32L7GT	1.85
1N5G	1.50	6J5GT	.80	7A5	1.20	35A5	1.20
*1N5GT	1.20	6J7G	1.00	7A6	1.20	*35L6GT	.90
1P5GT	1.50	6J7GT	1.00	7A7	1.20	35Z3	1.20
1Q5GT	1.50	6J8G	1.50	7A8	1.20	35Z4GT	.70
1T5GT	1.50	6K5G	1.00	7B5(LT)	1.20	*35Z5GT	.75
2A4G	2.75	6K6G	1.00	7B6(LM)	1.20	45Z5GT	1.00
2V3G	2.75	*6K6GT	.90	7B7	1.20	*50L6GT	1.00
3A8GT	2.25	6K7G	1.00	7B8(LM)	1.20	50Y6GT	1.00
*3Q5GT	1.50	6K7GT	.90	7C5(LT)	1.20	70L7GT	1.85
*5U4G	.90	6K8GT	1.20	7C6	1.20	117L7GT	2.25
5V4G	1.50	6L5G	1.00	7C7	1.20	117N7GT	2.25
5W4GT	.80	6L6G	1.85	7E6	1.20	117Z6GT	1.50
5X4G	1.00	6L7G	1.50	7E7	1.50		

*Before Type Number Indicates "Preferred List" Type.

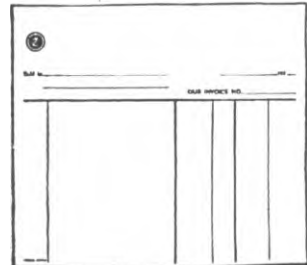
SALES AIDS



No. 2220—Calling Cards
Printed in two colors \$1.00 per 500



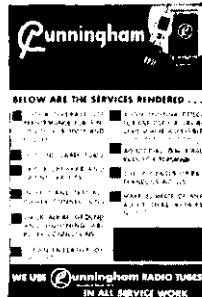
No. 2363—Repair Ticket
With your imprint:
300, \$0.85; 1000, \$2.25



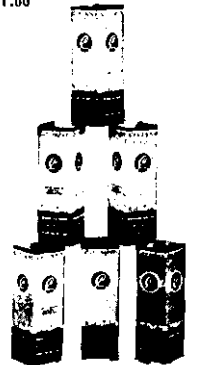
No. 2074—Bill Heads
Imprinted, \$1.00 per 500



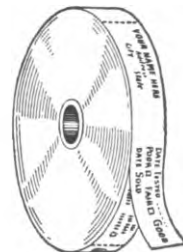
1417—Service Engineer's Pencil—\$1.00



No. 3205—Handbills
3-line imprint \$1.50 per 1000
(minimum order)



No. 2296—Dummy Cartons
Lots of 25. FREE on request



No. 2117—
Tube Test Stickers
\$1.00 per roll
imprinted

**QUICKER START—QUIETER OPERATION—UNIFORM VOLUME—
UNIFORM PERFORMANCE AND SEALED CARTON PROTECTION**



RECORD-PLAYING PARTS

PHONOGRAPH PICKUPS JUNIOR CRYSTAL PICKUP

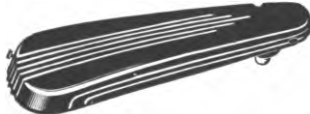


RCA's most popular-priced crystal pickup. Plays 10" or 12" records; completely sealed crystal; needle position is offset to assure true tracking; swiveled pick-up arm; new feature is use of viscoloid dampening; shock-proof mounting parts included. Finished in attractive brown wrinkle lacquer.

Specifications: IMPEDANCE—100,000 ohms at 1,000 cycles (1,300 mmfd. over range 70-7,000 cycles). FREQUENCY RANGE—70-7,000 cycles. OUTPUT VOLTAGE—1.5 volts at 1,000 cycles with 500,000 ohm load. NEEDLE PRESSURE—2.7 oz.

No. 9891—Net Price \$2.97
No. 33217—Crystal Cartridge for above..... 2.25

IMPROVED JUNIOR PICK-UP ARM



This new pick-up arm incorporates all the features of the older types but has an unusually attractive molded housing. Excellent fidelity of reproduction is obtained through the use of a sealed crystal pick-up and the arm may be used for either 10- or 12-inch records. Needle insertion is easy and shock-proof mounting parts are included. The polished brown finish blends with any type of cabinet.

Specifications: IMPEDANCE—100,000 ohms at 1,000 cycles (1,300 mmfd. over range 70-7,000 cycles). FREQUENCY RANGE—70-7,000 cycles. OUTPUT VOLTAGE—1.5 volts at 1,000 cycles with 500,000 ohm load. NEEDLE PRESSURE—2.7 ounces. FINISH—Polished mottled Bakelite.

No. 9886—Net Price \$3.27
No. 33122—Crystal Cartridge for above..... 2.25

SENIOR CRYSTAL PICK-UP



Modern design plus top needle loading are outstanding features of this fine RCA Pick-up. With the Stock No. 33909 Needle Box, used needles are ejected by merely loosening the needle screw and pressing the needle box lever. New needles are inserted by placing them in the hole at the top, while the ejector functions as a needle positioning bracket. This is a sturdy, well-built pick-up and arm that gives unusually fine record reproduction.

Specifications: IMPEDANCE—100,000 ohms at 1,000 cycles (1,300 mmfd. over range 70-7,000 cycles). FREQUENCY RANGE—70-7,000 cycles. OUTPUT VOLTAGE—1.5 volts at 1,000 cycles with 500,000 ohm load. NEEDLE PRESSURE—3 ounces. FINISH—Brown wrinkle lacquer.

No. 9869—(Less needle bracket.) Net Price \$3.87
No. 33909—Needle Box and Pick-up Rest..... .60
No. 33905—Crystal Cartridge for above..... 2.55

INERTIA TYPE SUSPENSION ARMS FOR RCA MAGNETIC PICKUPS



Excellent response characteristics. Include a plain escutcheon and a plug for connecting to magnetic pickup.

No. 9678—Walnut Finish. Net Price..... \$4.50
No. 9279—Black Finish. Net Price..... 4.50

AUTOMATIC RECORD CHANGER



New! Exactly the same as used in the finest 1940 RCA Victrolas. Plays seven 12-inch records or eight 10-inch records automatically and repeats last record. When records are not clipped or warped, both 10- and 12-inch may be played in mixed sequence. Simple, fool-proof design; positive in operation. Shock-absorbing coupling between motor and turntable; shock-proof mounting parts. Top loading crystal pick-up with automatic needle ejector and receptacle.

Specifications: PICKUP IMPEDANCE 100,000 ohms at 1,000 cycles (1,300 mmfd. over the range 70-7,000 cycles). OUTPUT—1.5 volts at 1,000 cycles with 500,000 ohm load. NEEDLE PRESSURE—3 oz. POWER SUPPLY—110-120 volts, 60 cycles, 25 watts. DIMENSIONS—Motorboard 14 3/4" wide by 11 1/2" deep. Space required above motorboard with record suspended 4 1/4". Space required below 3/4" cabinet rail, 4 1/4". Clearance required for record support arms 3/4" beyond motorboard. FINISH—Attractive brown wrinkle lacquer with chromium trim.

No. 9865—Net Price \$20.97
No. 34710—Crystal Cartridge for above..... 2.55

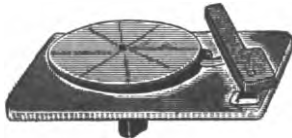
SYNCHRONOUS REACTION MOTOR AND TURNTABLE



Shock-proof mountings; free from wobble; simple in design; practically wear- and trouble-free. Turntable diameter 7"; finished in attractive brown flock. Plays any size record up to 12" in diameter. Consumes only 10 watts. Requires only small space for mounting. Ideal for modernization work.

No. 33343—Net Price \$3.57

MANUAL MOTORBOARD ASSEMBLY

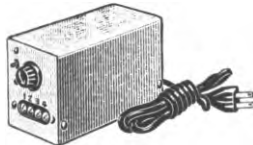


An excellent unit for re-building old Victrolas or Combinations. Uses RCA's Senior Crystal Pick-up and a new self-starting motor. Entire assembly furnished with shock-proof spring mounting suspension. Includes pickup shorting switch. Finished in attractive brown wrinkle lacquer.

Specifications: POWER SUPPLY—110-120 volts, 60 cycles, 25 watts. PICKUP IMPEDANCE—100,000 ohms at 1,000 cycles (1,600 mmf. over entire frequency range). OUTPUT—1.5 volts with 500,000 ohm load. FIDELITY—Flat—70-7,000 cycles. NEEDLE PRESSURE—3 oz. DIMENSIONS—Turntable 9" Dia., Motorboard 14 3/4" wide by 11 1/2" deep. Space required beneath board 3". Clearance above board 3 1/4".

No. 9850—Net Price \$14.97
No. 31156—Crystal Cartridge for above..... 2.55

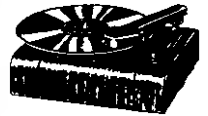
OSCILLATOR—MODULATOR



A Miniature Broadcasting Station for Every Home. With this unit you may easily connect either a high impedance microphone or phonograph pick-up to your broadcast receiver irrespective of its type or manufacture. So connected it furnishes a modulated signal which is fed into the input of the radio, similar to that obtained from a broadcast station. Operates from either AC or DC. **Specifications:** Tube, 1 12A7. Frequency Range, 950 kc.-1,300 kc. Input Power, 35 watts. Wgt., 1 1/4 lbs. Shpg. Wgt., 3 lbs.

No. 41907—Net Price \$4.47

RCA VICTROLA ATTACHMENT MODEL R-93-F



An inexpensive instrument that quickly converts any modern A-C radio into an electrical radio-phonograph combination. Plays both ten and twelve-inch records. Includes cushion-mounted, constant speed electric motor, latest type feather-touch crystal pickup in modern bakelite tone arm. Arm easily tilted to vertical position for insertion of needle. Attractive brown bakelite cabinet of modern design—11 3/4" wide by 9 3/4" deep by 3" high.

Specifications

POWER SUPPLY—110-120 volts, 60 cycles, 10 watts. PICKUP IMPEDANCE—100,000 ohms at 1,000 cycles. CABLE CONNECTION—32-inch cable with male fitting for connection to 1940 RCA Victor radios (use No. 9824 Switch and Cable Assembly for connecting to other radios.)

No. R-93F, Net Price..... \$5.65

AERODYNAMIC MICROPHONE

The new RCA Aerodynamic is of the pressure-operated dynamic type very popular with all microphone users. Trim, streamlined—excellent fidelity—small size. Insensitive to mechanical vibration. Requires no excitation or power supply. Low impedance type may be located up to 1,000 ft. from input amplifier. High impedance type fitted with a 30-ft. shielded cable. Both are impervious to changes in temperature and have a minimum of wind response. Thoroughly shielded and not affected by R-F or A-C fields.



Specifications

TYPE—Pressure operated. FREQUENCY RANGE—100 to 6,000 cycles. IMPEDANCE—250 ohms or 40,000 ohms. AVERAGE OPERATING LEVEL: —68 db. (10 bar signal across open circuit). DIMENSIONS—2 1/2" wide by 3" high by 3 3/8" deep. Net weight 1 1/4 lbs. FINISH—Polished chromium. STAND FITTING SIZE—1/8" pipe thread. Adapter included for 3/8" —27 Fitting. CABLE—30 ft. shielded.

Net Price (Less Stand)

No. MI-6226-D—Low Impedance Type \$11.97
No. MI-6228-B—High Impedance Type \$13.17
—40,000 ohms, includes 30 ft. shielded cable
No. MI-6227—Table Stand shown above. Finished in chromium and black with felt covered base..... 1.59

CARBON MICROPHONE

Here is the finest microphone value ever. This is not a toy but is a genuine RCA single Button Carbon Microphone that gives unusually fine performance. May be used with the RCA Stock No. 41907 Oscillator or in any other application where an inexpensive high-quality carbon microphone is required.



Specifications

Input Impedance.....1,200 ohms
Microphone Current.....5-10 M.A.
Shipping Weight.....1 lb.
No. 41905, Net Price.....\$0.75

Sylvania

THE SET-TESTED TUBE

Printed
November 1,
1940



REG. U. S. PAT. OFF.

Type	List Price	Type	List Price	Type	List Price			
00A	Detector	\$2.25	1V	Half-wave Rectifier	\$.90	6F5 (Met)	Triode Amplifier	\$1.00
01A	Detector, Amplifier	.80	1Y1	Battery Ballast	1.00	6F5G	Triode Amplifier	1.00
0A4G	Control Triode	1.85	1Z1	Battery Ballast	1.00	6F5GT	Triode Amplifier	.90
0Z4 (Met)	Full Wave Rectifier	1.50	2	Plug-in Resistor	1.20	*6F6 (Met)	Power Output Pentode	1.00
0Z4G	Full Wave Rectifier	1.50	2A3	Power Output Triode	1.85	*6F6G	Power Output Pentode	.80
1A1/5E1	Battery Ballast	1.00	2A4G	Triode Argon Thyatron	2.75	6F7	Pentode-Triode	1.50
1A4P	R-F Pentode Amplifier	1.50	2A5	Power Output Pentode	.90	6F7S (Maj)	Pentode-Triode	2.25
1A4T	R-F Tetrode Amplifier	1.50	2A6	Duodiode-Triode	.90	6F8G	Duotriode Amplifier	1.20
1A5G	Power Output Pentode	1.50	2A7	Pentagrid Converter	1.00	6G6G	Power Output Pentode	1.20
1A5GT	Power Output Pentode	1.00	2A7S (Maj)	Pentagrid Converter	2.25	6H4GT	Single Diode	1.85
1A6	Pentagrid Converter	1.20	2B7	Duodiode Pentode	1.20	*6H6 (Met)	Duodiode Detector	1.00
1A7G	Pentagrid Converter	1.50	2B7S (Maj)	Duodiode-Pentode	2.25	6H6G	Duodiode Detector	1.00
1A7GT	Pentagrid Converter	1.20	2E5	Tuning Indicator	1.20	6H6GT	Duodiode Detector	1.00
1B1	Battery Ballast	1.00	2S/4S (Maj)	Duodiode Detector	2.25	6J5 (Met)	Detector, Amplifier	.80
1B4P	R-F Pentode Amplifier	1.20	2W3 (Met)	Half-wave Rectifier	1.20	6J5G	Detector, Amplifier	.90
1B5/25S	Duodiode Triode	1.20	2X2/879	Half-wave Rectifier	2.25	6J5GT	Detector, Amplifier	.80
1B7G	Pentagrid Converter	1.20	2Z2/G84	(Maj) Half-wave Rect.	2.25	6J7 (Met)	R-F Pentode Amplifier	1.20
1C1	Battery Ballast	1.00	3	Plug-in Resistor	1.20	6J7G	R-F Pentode Amplifier	1.00
1C5G	Power Output Pentode	1.50	3A8GT	Diode Triode Pentode	2.25	6J7GT	R-F Pentode Amplifier	1.00
1C5GT	Power Output Pentode	1.20	3Q5G	Beam Power Amplifier	1.50	6J8G	Triode-Heptode Converter	1.50
1C6	Pentagrid Converter	1.20	3Q5GT	Beam Power Amplifier	1.50	6K5G	Triode Amplifier	1.00
1C7G	Pentagrid Converter	1.20	4	Plug-in Resistor	1.20	6K5GT	Triode Amplifier	1.00
1D1	Battery Ballast	1.00	5	Plug-in Resistor	1.20	6K6G	Power Output Pentode	1.00
1D5GP	R-F Pentode Amplifier	1.20	5T4 (Met)	Full-wave Rectifier	1.85	6K6GT	Power Output Pentode	.90
1D5GT	R-F Tetrode Amplifier	1.20	5U4G	Full-wave Rectifier	.90	*6K7 (Met)	R-F Pentode Amplifier	1.00
1D7G	Pentagrid Converter	1.50	5V4G	Full-wave Rectifier	1.50	*6K7G	R-F Pentode Amplifier	1.00
1D8GT	Diode Triode Pentode	1.85	5W4 (Met)	Full-wave Rectifier	1.00	6K7GT	R-F Pentode Amplifier	.90
1E1	Battery Ballast	1.00	5W4G	(Will supply 5W4GT)		6K8 (Met)	Triode Hexode Conv.	1.20
1E4G	Triode Amplifier	1.20	5W4GT	Full-wave Rectifier	.80	6K8G	Triode-Hexode Conv.	1.20
1E5GP	R-F Pentode Amplifier	1.50	5X4G	Full-wave Rectifier	1.00	6K8GT	Triode-Hexode Conv.	1.20
1E7G	Power Output Amplifier	2.25	*5Y3G	Full-wave Rectifier	.60	6L5G	Detector, Amplifier	1.60
1F1	Battery Ballast	1.00	5Y4G	Full-wave Rectifier	.65	6L6 (Met)	Beam Power Amp.	1.25
1F4	Power Output Pentode	1.20	5Z3	Full-wave Rectifier	1.00	6L6G	Beam Power Amp.	1.25
1F5G	Power Output Pentode	1.20	5Z4 (Met)	Full-wave Rectifier	1.20	6L7 (Met)	Pentagrid Mixer	1.50
1F6	Duodiode Pentode	1.50	6	Battery Ballast	1.20	6L7G	Pentagrid Mixer	1.50
1F7G	Duodiode Pentode	1.50	6A3	Power Output Triode	1.85	6N5	Tuning Indicator	1.50
1G1	Battery Ballast	1.00	6A4/LA	Power Output Pentode	1.50	6N6G	Power Output Amplifier	2.25
1G4G	Triode Amplifier	1.20	6A5G	Power Output Pentode	2.75	6N7 (Met)	Class B Power Amp.	1.50
1G4GT	Triode Amplifier	1.00	6A6	Class B Power Amplifier	1.50	6N7G	Class B Power Amp.	1.50
1G5G	Power Output Pentode	1.20	*6A7	Pentagrid Converter	.90	6P5G	Detector, Amplifier	.75
1G6G	Class B Power Amplifier	1.50	6A7S (Maj)	Pentagrid Converter	2.25	6P5GT	Detector, Amplifier	.70
1H4G	Detector, Amplifier	.90	*6A8 (Met)	Pentagrid Converter	1.20	6P7G	Pentode-Triode	2.25
1H5G	Diode-Triode Amplifier	1.20	*6A8G	Pentagrid Converter	.90	6Q7 (Met)	Duodiode Triode	1.20
1H5GT	Diode-Triode Amplifier	1.00	6A8GT	Pentagrid Converter	.90	*6Q7G	Duodiode Triode	.80
1H6G	Duodiode Triode	1.20	6AB5	Tuning Indicator	1.50	6Q7GT	Duodiode Triode	.80
1J1	Battery Ballast	1.00	6AB7/1853 (Met)	Pentode Amp.	1.85	6R7 (Met)	Duodiode Triode	1.50
1J5G	Power Output Pentode	1.85	6AC5G	Power Output Triode	1.20	6R7G	Duodiode Triode	1.00
1J6G	Class B Power Amplifier	1.20	6AC5GT	Power Output Triode	1.00	6R7GT	Duodiode Triode	.80
1K1	Battery Ballast	1.00	6AC7/1852 (Met)	Pentode Amp.	2.25	6S7G	R-F Pentode Amplifier	1.50
1LA4 (Lock-In)	Pow. Output Pent.	2.25	6AD6G	Tuning Indicator	1.50	6SA7 (Met)	Pentagrid Converter	.50
1LA6 (Lock-In)	Pentagrid Conv.	2.25	6AD7G	Triode Pentode	1.50	6SA7GT	Pentagrid Converter	1.00
1LB4 (Lock-In)	Pow. Output Pent.	2.25	6AE6G	Control Tube	1.20	6SC7 (Met)	Duotriode Amplifier	1.20
1LC5 (Lock-In)	R-F Pentode	2.25	6AF5G	Triode Voltage Amplifier	1.20	6SF5 (Met)	Triode Amplifier	.90
1LC6 (Lock-In)	Pentagrid Conv.	2.25	6AF6G	Tuning Indicator	1.50	6SF5GT	Triode Amplifier	.90
1LD5 (Lock-In)	Diode-Audio Pent.	2.25	6B4G	Power Output Triode	1.85	6J7 (Met)	R-F Pentode Amp.	1.00
1LE3 (Lock-In)	Triode Amplifier	1.85	6B5	Power Output Amplifier	1.85	6J7GT	R-F Pentode Amplifier	1.00
1LH4 (Lock-In)	Diode-Triode	2.25	6B7	Duodiode-Pentode	1.20	6SK7 (Met)	R-F Pentode Amp.	.50
1LN5 (Lock-In)	R-F Pentode	2.25	6B7S (Maj)	Duodiode-Pentode	2.25	6BK7GT	Triple Grid Amplifier	1.00
1N5G	R-F Pentode	1.50	6B8 (Met)	Duodiode-Pentode	1.85	6SQ7 (Met)	Duodiode Triode	.90
1N5GT	R-F Pentode	1.20	6B8G	Duodiode-Pentode	1.20	63Q7GT	Duodiode Triode	1.60
1N6G	Diode-Pentode Power Amp.	1.20	6C5 (Met)	Detector, Amplifier	1.00	6T7G	Duodiode Triode	1.20
1P5G	R-F Pentode	1.50	6C5G	Detector, Amplifier	.90	6U5/6G5	Tuning Indicator	1.20
1P5GT	R-F Pentode	1.50	6C5GT	Detector, Amplifier	.90	6U7G	R-F Pentode Amplifier	.50
1Q5G	Beam Power Amplifier	1.50	6C6	R-F Pentode Amplifier	.90	6V6 (Met)	Beam Power Amplifier	1.25
1Q5GT	Beam Power Amplifier	1.50	6C7 (Maj)	Duodiode-Triode	2.25	6V6G	Beam Power Amplifier	1.20
1R1G	Battery Ballast	1.00	6C8G	Duotriode Amplifier	1.50	6V6GT	Beam Power Amplifier	1.00
1R5	Pentagrid Converter	1.50	*6D6	R-F Pentode Amplifier	.90	6V7G	Duodiode Triode	1.20
1S4	Power Output Pentode	1.50	6D7 (Maj)	R-F Pentode Amplifier	2.25	6W7G	R-F Pentode Amplifier	1.50
1S5	Diode-Pentode	1.50	6D8G	Pentagrid Converter	1.50	6X5 (Met)	Full-wave Rectifier	1.50
1T1G	Battery Ballast	1.00	6E5	Tuning Indicator	1.00	6X5G	Full-wave Rectifier	1.00
1T4	R-F Pentode	1.50	6E6	Power Output Amplifier	1.85	6X5GT	Full-wave Rectifier	.90
1T5GT	Beam Power Amplifier	1.50	6E7 (Maj)	R-F Pentode Amplifier	2.25	6Y5 (Maj)	Full-wave Rectifier	2.25

PENNSYLVANIA RADIO TUBES

Type	List Price	Type	List Price	Type	List Price
6Y6G	Beam Power Amplifier	\$1.50	*24A	R-F Tetrode Amplifier	\$.80
6Y7G	Class B Power Amplifier	1.50	24S (Maj)	R-F Pentode Amplifier	2.25
6Z5 (Maj)	Full-wave Rectifier	2.25	25A6 (Met)	Power Output Pent.	1.85
6Z7G	Class B Power Amplifier	1.85	25A6G	Power Output Pentode	1.00
6ZY5G	Full-wave Rectifier	1.20	25A6GT	Power Output Pentode	1.00
7	Plug-in Resistor	1.20	25A7G	Rectifier, Output Pent.	1.50
7A4 (Lock-In)	Triode Amplifier	1.20	25A7GT	Rectifier, Output Pent.	1.50
7A5 (Lock-In)	Beam Power Amp.	1.20	25AC5G	Power Output Triode	1.50
7A6 (Lock-In)	Duodiode Detector	1.20	25B6G	Power Output Pentode	1.85
7A7 (Lock-In)	R-F Pentode Amp.	1.20	25B8GT	Pentode Triode	1.85
7A8 (Lock-In)	Octode Converter	1.20	25C6G	Beam Power Amplifier	1.85
7B4 (Lock-In)	Triode Amplifier	1.20	25D8GT	Diode Triode Pentode	1.85
7B5 (Lock-In)	Power Output Pent.	1.20	25L6 (Met)	Beam Power Amplifier	1.50
7B6 (Lock-In)	Duodiode Triode	1.20	25L6G	Beam Power Amplifier	1.20
7B7 (Lock-In)	R-F Pentode Amp.	1.20	25L6GT	Beam Power Amplifier	1.00
7B8 (Lock-In)	Pentagrid Conv.	1.20	25Y5	Doubler, Rectifier	2.25
7C5 (Lock-In)	Beam Power Amp.	1.20	*25Z5	Doubler, Rectifier	.90
7C6 (Lock-In)	Duodiode Triode	1.20	25Z6 (Met)	Doubler, Rectifier	1.20
7C7 (Lock-In)	R-F Pentode Amp.	1.20	25Z6G	Doubler, Rectifier	.90
7E6 (Lock-In)	Duodiode Triode	1.20	25Z6GT	Doubler, Rectifier	.90
7E7 (Lock-In)	Duodiode Pentode	1.50	*26	Triode Amplifier	.65
7F7 (Lock-In)	Duotriode Amp.	1.50	*27	Detector, Amplifier	.60
7G7/1232 (Lock-In)	Pent. Amp.	1.85	27S (Maj)	Detector, Amplifier	2.25
7H7 (Lock-In)	R-F Pentode	1.85	30	Detector, Amplifier	.90
7J7 (Lock-In)	Triode Hex. Conv.	1.85	31	Power Output Triode	.90
7L7 (Lock-In)	R-F Pentode	1.85	32	R-F Tetrode Amplifier	1.20
7N7 (Lock-In)	Duotriode Amp.	1.85	32L7GT	Rectifier, Output Amp.	1.85
7Q7 (Lock-In)	Pentagrid Conv.	1.20	33	Power Output Pentode	1.20
7Y4 (Lock-In)	Full-wave Rectifier	1.20	34	R-F Pentode Amplifier	1.20
8	Plug-in Resistor	1.20	35/51	R-F Tetrode Amplifier	.90
9	Plug-in Resistor	1.20	35A5 (Lock-In)	Beam Power Amp.	1.20
10	Power Output Triode	2.75	35L6G	Beam Power Amplifier	1.20
12A	Power Output Triode	.90	35L6GT	Beam Power Amplifier	.90
12A5	Power Output Pentode	2.25	35S/51S (Maj)	R-F Pentode Amp.	2.25
12A7	Rectifier, Output Pentode	1.85	35Z3 (Lock-In)	Half-wave Rectifier	1.20
12A8G	Pentagrid Converter	1.20	35Z4GT	Half-wave Rectifier	.70
12A8GT	Pentagrid Converter	.90	35Z5G	Half-wave Rectifier	1.20
12C8 (Met)	Duodiode Pentode	1.85	*35Z5GT	Half-wave Rectifier	.75
12F5GT	Triode Amplifier	.90	36	R-F Tetrode Amplifier	.90
12J5GT	Detector, Amplifier	.90	37	Triode Amplifier	.75
12J7GT	R-F Pentode Amplifier	1.00	38	Power Output Pentode	1.00
12K7G	R-F Pentode Amplifier	1.20	39/44	R-F Pentode Amplifier	.90
12K7GT	R-F Pentode Amp.	.90	40	Voltage Amplifier	1.50
12Q7G	Duodiode Triode	1.20	40Z5	45Z5GT Half-wave Rect.	1.00
12Q7GT	Duodiode Triode	.80	41	Power Output Pentode	.75
12SA7 (Met)	Pentagrid Converter	.90	*42	Power Output Pentode	.75
12SA7GT	Pentagrid Converter	1.20	*43	Power Output Pentode	1.00
12SC7 (Met)	Duotriode Amp.	1.20	*45	Power Output Triode	.70
12SF5GT	Triode Amplifier	1.00	46	Power Output Amplifier	1.00
12SJ7 (Met)	R-F Pentode Amp.	1.00	46A1	Plug-in Resistor	1.20
12SJ7GT	Triple Grid Amplifier	1.00	46B1	Plug-in Resistor	1.20
12SK7 (Met)	R-F Pentode Amp.	.90	*47	Power Output Pentode	1.00
12SK7GT	Triple Grid. Amp.	1.00	48	Power Output Tetrode	2.75
12SQ7 (Met)	Duodiode Triode	.90	49	Class B Power Amplifier	1.20
12SQ7GT	Duodiode Triode	1.00	50	Power Output Triode	2.25
12Z3	Half-wave Rectifier	.90	*50L6GT	Beam Power Amplifier	1.00
14A7/12B7 (Lock-In)	R-F Pentode	1.85	50Y6G	Doubler, Rectifier	1.00
14B6 (Lock-In)	Duodiode Triode	1.20	50Y6GT	Doubler, Rectifier	1.00
14J7 (Lock-In)	Triode Hex. Conv.	1.85	50Z7G	Doubler, Rectifier	1.20
14Q7 (Lock-In)	Heptode Conv.	1.20	53	Class B Power Amplifier	1.50
15	R-F Pentode Amplifier	1.85	55	Duodiode Triode	1.00
18	Power Output Pentode	1.85	55S (Maj)	Duodiode Triode	2.25
19	Class B Amplifier	1.20	56	Detector, Amplifier	.70
20	Power Output Triode	2.75	56AS (Maj)	Detector, Amplifier	2.25
22	R-F Tetrode Amplifier	2.25	56S (Maj)	Detector, Amplifier	2.25

SPECIAL TYPES

6A6X	Class B Power Amplifier	1.90
6J5GX	Detector, Amplifier	1.50
6L6GX	Beam Power Amplifier	2.10
6V6GX	Beam Power Amplifier	1.70
210-T	Power Output Triode	2.75
884 ("G")	Gas-filled Triode	2.65
885	Gas-filled Triode	2.65
1231 (Lock-In)	Pentode Amplifier	4.00
1612 (Met)	Non-Microphonic Amp.	4.35
1620 (Met)	Non-Microphonic Pent.	3.15

CATHODE RAY TUBES

3AP1/906-P1	(C-R) Pict. Tube	18.00
3AP3/906-P3	(C-R) Pict. Tube	18.00
3AP4/906-P4	(C-R) Pict. Tube	18.25
5AP1/1805-P1	(C-R) Pict. Tube	24.75
5AP4/1805-P4	(C-R) Pict. Tube	27.50
5BP1/1802-P1	(C-R) Pict. Tube	24.75
5BP3/1802-P3	(C-R) Pict. Tube	24.75
5BP4/1802-P4	(C-R) Pict. Tube	27.50

Type numbers followed by a "G" (1C7G) designate glass tubes with octal bases.
(Bal) Ballast; (Maj) Majestic; (Met) Metal; (Res) Plug-in Resistor.

AVERAGE DEALER SALES BY TUBE TYPES

As an assistance in ordering and maintaining stock, we have broken down all current tubes into 4 classes. Generally speaking, approximately 50% of replacement sales will come from Group "A," 20% from Group "B," 20% from Group "C," 10% from Group "D," and Special Types. Even the small dealer should maintain generous supplies of Group "A" tubes and reasonable quantities of Group "B". His own experience will dictate his requirements of Groups "C," and "D." These classifications, naturally, are compiled on a national basis and are intended only as a general guide. Sectional differences will change, them as for instance, dry battery tubes in farming areas. AC-DC types in cities employing direct current, etc., etc.

- *GROUP "A" (APPROXIMATELY 50%)—5Y3G, 6A7, 6A8, 6A8G, 6D6, 6F6, 6F6G, 6H6, 6K7, 6K7G, 6Q7G, 24A, 25Z5, 26, 27, 35Z5GT, 42, 43, 45, 47, 50L6GT, 75, 78, 80.
- GROUP "B" (APPROXIMATELY 20%)—0Z4, 0Z4G, 1A7G, 1A7GT, 1H5G, 1H5GT, 1N5G, 1N5GT, 5Y4G, 5Z3, 5Z4, 6C6, 6F5 6J5G, 6L6G, 6U5/6G5, 6X5G, 25Z6GT, 30, 35/51, 35L6GT, 39/44, 41, 58, 71A, 76, 77, 84/6Z4.
- GROUP "C" (APPROXIMATELY 20%)—1A5G, 1A5GT, 1C5G, 1C5, 1C7G, 1H4G, 1Q5GT, 1T5GT, 1V, 2A3, 2A5, 2A7, 3Q5GT, 5W4, 6A8GT, 6B5, 6B7, 6C5, 6C5G, 6E5, 6F5G, 6F7, 6H6G, 6J5, 6J7, 6J7G, 6K3G, 6K6G, 6K6GT, 6K7GT, 6L6, 6L7, 6L7G, 6N6G, 6N7, 6N7G, 6Q7, 6Q7GT, 6R7G, 6S7, 6S7GT, 6SK7, 6SQ7, 6U7G, 6V6G, 6X5, 6X5GT, 7A7, 7A8, 7B6, 7B7, 7B8, 7C5, 7C6, 7Y4, 12A8GT, 12K7GT, 12Q7GT, 12SA7, 12SA7GT, 12SK7, 12SK7GT, 12SQ7, 12SQ7GT, 12Z3, 19, 25L6, 25L6G, 25L6GT, 25Z6, 25Z6G, 32, 34, 35A5, 35Z3, 35Z4GT, 36, 37, 38, 36, 57, 70L7GT, 83, 85, 11Z26G, 485.
- GROUP "D" (APPROXIMATELY 10%) Contains all other types.

Sylvania Panel Lamps



A complete line of Sylvania Panel Lamps is now made available. These Sylvania lamps are especially designed for radio dials, tuning meters, flash-tuning arrangements and the like, but a market will also be found for some of the types in flash-lights, parking lights, auto panel boards, pin ball machines, and wherever a miniature lamp of this style is required.

The early types of panel lamps were used primarily as on-or-off indicators in radio receivers. Present day panel lamps must be constructed to withstand speaker vibrations, have noise free operation, current drain within the required limit (particularly when used in ac-dc receivers and battery receivers), and to provide shadowless illumination. The Sylvania line of radio panel lamps have been constructed for all these requirements.

The replacement of panel lamps **should** be made with lamps having the same type number. This is particularly true in tuning meters, battery, and AC-DC receiver replacements. The filament wires of all standard panel lamps are mounted through a small colored glass bead located above the bulb press. If the markings on the lamp to be replaced are not legible, the bead color may be used as identification, provided voltage supply is known.

Sylvania type S47 is the same as other lamps marked 40A. Lamps marked 49A may be replaced with Sylvania type S49. Type S292 is mainly for use in 2.5 volt receivers where the line voltage is high, and regular 2.5 volt lamps will not stand up.

It is recommended that complete replacement of panel lamps be made on a receiver at one time. Additional profit and a satisfied customer will be the result. The average life of panel lamps is considerable, but unpredictable, because of varying applications and conditions. Therefore, because of the low unit cost, complete replacement is recommended whenever convenient.

Hygrade Sylvania Corporation manufactures a complete line of Sylvania Radio Tubes and Hygrade Lamp Bulbs. Over thirty-five years of Lamp Bulb and Radio Tube manufacturing and merchandising experience has earned Hygrade Sylvania Corporation a prominent and enviable position in these fields. For information regarding Sylvania Radio Tubes, and Sylvania Panel Lamps, we invite you to write to Hygrade Sylvania Corporation, Emporium, Pa.

SYLVANIA RADIO TUBE DIVISION
Hygrade Sylvania
CORPORATION
EMPORIUM, PENNA.

St. Marys, Pa.

New York, N. Y.

Salem, Mass.

Sylvania

REG. U. S. PAT. OFF.

PANEL LAMPS



Prices Effective May 1, 1939



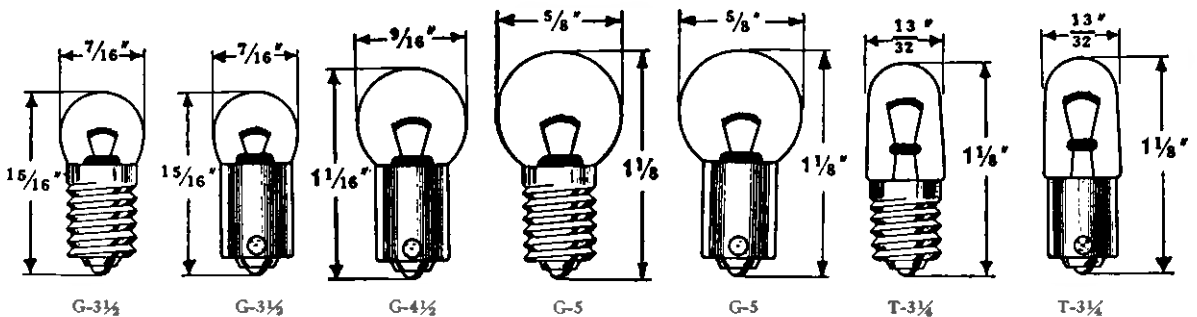
Fully Licensed as indicated on carton

Type No.	Code Word	Filament		Bulb Style	Type of Base	Bead Color	List Price	
		Volts	Ampere				Each	Carton of 10
S40	Peach	6-8	0.15	T-3¼	Screw	Brown	\$0.09	\$0.90
S41	Pear	2.5	0.50	T-3¼	Screw	White	.09	.90
S42	Plum	3.2	0.35	T-3¼	Screw	Green	.12	1.20
S43	Prune	2.5	0.50	T-3¼	Bayonet	White	.09	.90
S44	Pome	6-8	0.25	T-3¼	Bayonet	Blue	.09	.90
S45	Pine	3.2	0.35	T-3¼	Bayonet	White	.12	1.20
S46	Perch	6-8	0.25	T-3¼	Screw	Blue	.09	.90
*S47	Pick	6-8	0.15	T-3¼	Bayonet	Brown	.09	.90
S48	Page	2.0	0.06	T-3¼	Screw	Pink	.15	1.50
*S49	Port	2.0	0.06	T-3¼	Bayonet	Pink	.15	1.50
S50	Pat	6-8	0.20	G-3½	Screw	White	.10	1.00
S51	Pup	6-8	0.20	G-3½	Bayonet	White	.07	.70
S55	Purr	6-8	0.40	G-4½	Bayonet	White	.07	.70
S292	Past	2.9	0.17	T-3¼	Screw	White	.12	1.20
S292A	Pantry	2.9	0.17	T-3¼	Bayonet	White	.12	1.20
S1455	Parlor	18.0	0.25	G-5	Screw	Brown	.10	1.00
S1455A	Prayer	18.0	0.25	G-5	Bayonet	Brown	.10	1.00

*Sylvania Types S47 and S49 are interchangeable with Types 40A and 49A respectively, in any other brand.

ILLUSTRATIONS AND DIMENSIONS

(Actual Sizes)



DISCOUNTS TO DEALERS AND SERVICEMEN

Sylvania Panel Lamps are packed in cartons of ten (10) of a type. Cartons (of 10 lamps each) will not be broken.

- 1 to 9 Cartons (10 to 90 Lamps).....40% from List Prices
- 10 to 19 Cartons (100 to 190 Lamps).....40-10% from List Prices
- 20 or more Cartons (200 or more Lamps).....50% from List Prices

Cartons May Be Assorted to Obtain Quantity Prices.



SYLVANIA "STOCK BOY" CABINETS FOR TUBES AND SERVICE PARTS

Ask Your Jobber how to get these Attractive Cabinets

For neat and handy storage of tubes and parts the cabinet on the right has everything—space for over 250 tubes; a drawer of 21 compartments; another with 4 compartments. All-steel, 59 1/2" high, 22" wide, 12" deep. The folding cabinet below holds 240 tubes; is 38" high 21 3/4" wide and 11 1/2" deep when closed. See your Sylvania jobber about getting one of these cabinets at a big saving... today.



Floor Model

FOLDING STYLE

← Closed

Open ↓



SYLVANIA SHOPCOAT

for
Neat Shop Appearance
and
Clothing Protection

A well tailored, practical garment made of serviceable double strength, herringbone weave, dungaree cloth in a green and white mix giving a tweed effect. Roomy pockets, with extra strong seams. Special button arrangement allows tails to be buttoned to front offering added pants protection. Made in five popular sizes, 36, 38, 40, 42, 44, each \$1.95



3 x 5 CARD FILE

for
Systematic
Record Control

Handsome, sturdy, completely enclosed card file made of 22-gauge steel, finished in olive green. Just the thing for filing Sylvania job record cards.

Card guide and complete set of index cards for filing alphabetically by month or by day, (numbered 1 to 31) are included with each case. Dimensions 5 1/4" wide x 3 3/4" high x 12" long.

CAPACITY—1000 standard, 3 x 5 cards, price

\$1.50



A SYLVANIA SERVICE KIT

for
Convenience
and Professional
Appearance



203

A high grade, sturdy specially designed kit for radio service men made with black leatherette covering, chrome fittings,

reinforced corners. Handy tool tray lifts out for added accessibility. Offered in two sizes as follows:

ITEM No. 203—(Illustrated) Inside dimensions 10" x 17" x 7", each \$3.00

ITEM No. 203A—Inside dimensions 14" x 22" x 8", with extra inside cover compartment, each 5.00

BOOK MATCHES

Offered in two sizes with your name imprinted on outside cover.

ITEM No. 107—Regular Size (1 1/2" x 2")

ITEM No. 107A—Midget Size (1 1/8" x 1 1/2")

Charge imprinted—1000 \$3.25 2500 \$7.50 5000 \$14.90

NOTE—1000 Books, f.o.b. shipping point. 2500 Books or more, f.o.b. destination.



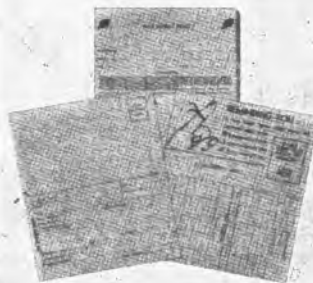
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107-A

SALES AND SERVICE FORMS

New Job Record Card including guarantee, set-owner's warranty and customer's receipt all on one card with perforations for separate filing.

ITEM No. 212—Imprinted with your name.
100 \$1.00
250 4.75
500 3.00



223

The new 3 in 1 form illustrated above is Sylvania's contribution to simple and easy handling of business transactions. It combines invoice, guarantee, job record card and sales promoting follow-up card. Original form on standard weight bond paper while duplicate is on card stock for filing and mailing.

ITEM No. 223—Size 5" x 6" with name imprinted.
100 sets \$1.50
250 sets 2.50
500 sets 4.00



212

Illustrated above are but a few of the many Sales Promotion and Technical Helps available to Sylvania Retailers

Write us or ask our Sales Representative for full details on the complete Sylvania Promotion Setup

SYLVANIA SALES AND SERVICE HELPS



AUTHORIZED DEALER WINDOW DECALCOMANIA

A window transparency lithographed in attractive colors, for transferring to your window or door.

ITEM No. 1 FREE



OUTDOOR SERVICE SIGN

With or Without Attachable Name Plate

The new Sylvania Flange Sign is weatherproof, baked enamel on heavyweight sheet metal. Wide flange has five holes for sturdy mounting to building. Size of sign, 16 1/2" x 11 1/4". Addition of name

plate hanger makes overall height of 16". Lettering done in pleasing Sylvania green on white background.

ITEM No. 3—Flange Sign only \$0.25
IMPRINTED DEALER'S NAME PLATE 1.00



TUBE AND SERVICE STICKERS

Gummed stickers for attaching to tubes or radio sets as reminders of your service.

ITEM No. 110—Tube stickers in rolls of 2000 imprinted, per roll \$1.00

ITEM No. 114—Tube stickers in rolls of 1000 without name, per roll \$0.25

ITEM No. 117—Service stickers imprinted. Roll of 1000, per roll \$1.25

Roll of 2000, per roll 2.00



PRINTED POSTAL CARDS FOR DIRECT MAIL ADVERTISING

Printed in bright colors (Red, Green, and Black) on Government 1c stamped postal cards, they are all ready to address and mail. We pay all the printing costs, including your imprint (name, address and

phone number) and you get them in units of 100—25 of each—at only the postage cost, \$1.00 per 100. Order enough to mail one of each kind to each of your customers.

ITEM No. 104—In lots of 100 with name imprinted \$1.00



PROGRAM REMINDERS

An especially appropriate advertising novelty for radio dealers and service men. Space is provided for your customers to insert their favorite programs or station call letters opposite thirty time changes each day. Overall size 6 1/2" x 7 1/2". Complete with name imprinted.

ITEM No. 119—100 \$2.50
250 4.50
500 7.50
1000 10.00



SYLVANIA ELECTRIC SIGN

With or Without Name Plate

A sturdy, metal frame, electric sign in green crackle finish with chrome plated trim edges. Glass illuminated panel in green, black and white. Firm, flat base for standing on ledge or counter or can be hung on wall from adjustable chain. Size of sign 22 1/2" x 8 3/4" x 3 1/4".

ITEM No. 7—Electric sign only \$1.25
ITEM No. 7A—Imprinted dealer name plate 1.00



ELECTRIC CLOCK SIGN

An attractive hanging electric clock sign with illuminated dial and letters. Illuminated panel at top for dealer's name. Clock operates whether light is on or not. Size 11 1/2" x 20" wide.

ITEM No. 16—Without dealer's name \$5.00
With dealer's name 6.00



SYLVANIA DUMMY TUBE CARTONS

Reproductions of Sylvania Tube cartons in standard or giant size for window and counter display purposes.

ITEM No. 5—12 Standard size cartons FREE
ITEM No. 5A—Giant size carton FREE



SYLVANIA TECHNICAL BOOKS



202

208

218



211



220

ITEM No. 202—Technical Manual, each \$0.35
ITEM No. 208—Service Hints Book FREE
ITEM No. 218—Tube Complement Book, each \$0.25
ITEM No. 211—Characteristics Sheet FREE
ITEM No. 220—Technical Section Binder, each \$1.00

Illustrated above are but a few of the many Sales Promotion and Technical Helps available to Sylvania Retailers

Write us or ask our Sales Representative for full details on the complete Sylvania Promotion Setup



WORLD'S LARGEST EXCLUSIVE RADIO TUBE MANUFACTURERS

DEPENDABLE

Type No.	List Price	Type No.	List Price	Type No.	List Price	Type No.	List Price	Type No.	List Price
00A	\$2.25	4A6G	\$1.85	6K7	\$1.00	7C6	\$1.20	32	\$1.20
01A	.80	5T4	1.85	6K7G	1.00	7C7	1.20	32L7GT	1.85
0A4G	1.85	5U4G	.90	6K7GT	.90	7E6	1.20	33	1.20
024	1.50	5V4G	1.50	6K8	1.20	7E7	1.50	34	1.20
024G	1.50	5W4	1.00	6K8G	1.20	7F7	1.50	35/51	.90
1A4P	1.50	{5W4G}	.80	6K8GT	1.20	7H7	1.85	35A5	1.20
1A4T	1.50	{5W4GT}	.80	6L5G	1.00	7J7	1.85	35L6GT	.90
{1A5G}	1.00	5X4G	1.00	6L6	1.85	7L7	1.85	35Z3	1.20
{1A5GT}	1.00	5Y3G	.60	6L6G	1.85	7N7	1.85	35Z4GT	.70
1A6	1.20	5Y4G	.65	6L7	1.50	7Q7	1.20	{35Z5G}	.75
1A7G	1.50	5Z3	1.00	6L7G	1.50	7Y4	1.20	{35Z5GT}	.75
1A7GT	1.20	5Z4	1.20	6N6G	2.25	10	2.75	35Z6G	1.20
1B4/951	1.20	5Z4MG	1.20	6N6MG	2.25	WD-11	2.25	36	.90
1B5/25S	1.20	6A3	1.85	6N7	1.50	WX-12	2.25	37	.75
1B7G	1.20	6A4/LA	1.50	6N7G	1.50	12A	.90	38	1.00
1C5G	1.50	6A5G	2.75	6P5G	.75	12A5	2.25	39/44	.90
1C5GT	1.20	6A6	1.50	6P5GT	.70	12A7	1.85	40	1.50
1C6	1.20	6A7	.90	6P7G	2.25	12A8GT	.90	41	.75
1C7G	1.20	6A8	1.20	6Q7	1.20	12B7	1.85	42	.75
1D5GP	1.20	6A8G	.90	6Q7G	.80	12B8GT	1.50	43	1.00
1D5GT	1.20	6A8GT	.90	6Q7GT	.80	12C8	1.85	45	.70
1D7G	1.50	6A85/6N5	1.50	6R7	1.50	12F5GT	.90	45Z5GT	1.00
1D8GT	1.85	6AC5G	1.20	6R7G	1.00	12J5GT	.90	46	1.00
1E4G	1.20	6AC5GT	1.00	6R7GT	.80	12J7GT	1.00	47	1.00
1E5GP	1.50	6AD6G	1.50	6S7	1.50	12K7GT	.90	48	2.75
1E7G	2.25	{6AE5G}	1.20	6S7G	1.50	12K8GT	1.20	49	1.20
1F4	1.20	{6AE5GT}	1.20	6SA7	.90	12Q7GT	.80	50	2.25
1F5G	1.20	6AE6G	1.20	6SA7GT	1.00	12SA7	.90	50C6G	1.85
1F6	1.50	6AE7GT	1.20	6SC7	1.20	12SA7GT	1.20	50L6GT	1.00
1F7GH	1.50	6AF5G	1.20	6SD7GT	1.20	12SC7	1.20	{50Y6G}	1.00
{1G4G}	1.20	6AF6G	1.50	6SF5	.90	12SF5	1.00	{50Y6GT}	1.00
{1G4GT}	1.20	6B4G	1.85	6SF5GT	.90	12SF5GT	1.00	52	2.75
1G5G	1.20	6B5	1.85	6SJ7	1.00	12SJ7	1.00	53	1.50
{1G6G}	1.50	6B6G	1.00	6SJ7GT	1.00	12S17GT	1.00	55	1.00
{1G6GT}	1.50	6B7	1.20	6SK7	.90	12SK7	.90	56	.70
1H4G	.90	6B8	1.85	6SK7GT	1.00	12SK7GT	1.00	57	.80
1H5G	1.20	6B8G	1.20	6SQ7	.90	12S07GT	.90	58	.80
1H5GT	1.00	6C5	1.00	6S07GT	1.00	12SR7	1.20	59	1.50
1H6G	1.20	6C5G	.90	6SR7	1.00	12Z3	.90	70L7GT	1.85
1J5G	1.85	6C5GT	.90	6T7G/6Q6G	1.20	15	1.85	71A	.80
1J6G	1.20	6C6	.90	6U6G	1.20	19	1.20	75	.75
2LA4	2.25	6C8G	1.50	6U7G	.90	20	2.75	76	.80
2LA6	2.25	6D6	.90	6V6	1.85	22	2.25	77	.80
2LB4	2.25	6D8G	1.50	{6V6G}	1.00	24A	.80	78	.80
2LH4	2.25	6E5	1.00	{6V6GT}	1.00	25A6	1.85	79	1.50
2LN5	2.25	6E6	1.85	6V7G	1.20	{25A6G}	1.00	80	.60
2N5G	1.50	6F5	1.00	6W5G	1.85	{25A7G}	1.50	81	1.85
2N5GT	1.20	6F5G	1.00	6W5GT	1.50	{25A7GT}	1.50	82	1.20
1N6G	1.20	6F6	1.00	6X5	1.50	25AC5G	1.50	83	1.20
1P5GT	1.50	6F6G	.80	{6X5G/600}	.90	25B6G	1.85	83V	1.85
{1Q5G}	1.50	6F7	1.50	{6X5GT}	.90	25B8GT	1.85	84/6Z4	1.00
{1Q5GT}	1.50	6F8G	1.20	6Y6G	1.50	25C6G	1.50	85	.80
1R5	1.50	6F8G	1.20	6Y7G	1.50	25L6G	1.20	89	.90
1S4	1.50	6G4GT	1.85	6Z7G	1.85	25L6GT	1.00	V-99	2.75
1S5	1.50	6H6	1.00	6ZY5G	1.20	25Y5	2.25	X-99	2.75
1T4	1.50	6H6G	1.00	7A4	1.20	25Z5	.90	117L7GT	2.25
1T5GT	1.50	6H6GT	1.00	7A5	1.20	25Z6	1.20	117M7GT	2.25
1V	.90	6J5	.80	7A6	1.20	{25Z6G}	.90	117N7GT	2.25
2A3	1.85	{6J5G}	.80	7A7	1.20	26	.65	{117Z6G}	1.50
2A4G	2.75	{6J5GT}	.80	7A8	1.20	27	.60	{117Z6GT}	1.50
2A5	.90	6J7	1.20	7B4	1.20	30	.90	950	1.85
2A6	.90	6J7G	1.00	7B5	1.20	31	.90	1232	1.85
2A7	1.00	6J7GT	1.00	7B6	1.20				
2B7	1.20	6J8G	1.50	7B7	1.20				
2E5	1.20	6K5G	1.00	7B8	1.20				
3A8GT	2.25	{6K6G}	.90	7C5	1.20				
3Q5GT	1.50	{6K6GT}	.90						

Prices Subject To Change Without Notice

DEPENDABLE **RAYTHEON** QUALITY

SPECIAL TYPE TUBES

MAJESTIC TYPES

Type No.	List Price	Type No.	List Price
2A7S	\$2.25	24S	\$2.25
2B7S	2.25	27S	2.25
2S/4S	2.25	35S/51S	2.25
2Z2/G84	2.25	55S	2.25
6A7S	2.25	56AS	2.25
6B7S	2.25	56S	2.25
6C7	2.25	57AS	2.25
6D7	2.25	57S	2.25
6E7	2.25	58AS	2.25
6F7S	2.25	58S	2.25
6Y5	2.25	75S	2.25
6Z5	2.25	85AS	2.25

Type No.	SPARTON TYPES	List Price
182B/482B		\$1.85
183/483		1.85
485		1.85

SPECIAL RECTIFIERS

BA	\$6.50
BH	3.65
BR	2.65

TELEVISION TYPES

2X2/879	\$2.25
6AB7/1853	1.85
6AC7/1852	2.25
6AG7	2.25
6AL6G	6.75

VOLTAGE REGULATOR TYPES

VR-90	\$2.25
VR-105	2.25
VR-150	2.25

RESISTOR TUBES

Type No.	List Price	Type No.	List Price
1A1	\$1.20	L49D	\$.80
1B1	1.20	K55B	.80
42A	.80	K55C	.80
K42B	.80	K55D	.80
BK42B	.80	L55B	.80
L42B	.80	L55C	.80
L42C	.80	L55D	.80
49A	.80	M73B	.80
K49B	.80	165R	.80
K49C	.80	165R4	.80
K49CB } BK49C }	.80	185R	.80
K49D	.80	185R4	.80
L49B	.80	185RS	.80
L49C	.80	NB2	.80
		NB8	.80

SOUND SPECIAL TYPES

Type No.	List Price
SS-5U4G	\$1.20
SS-5V4G	1.85
SS-5Y3G	.90
SS-6C5G	1.20
SS-6C8G	1.85
SS-6F6G	1.00
SS-6F8G	1.50
SS-6J7G	1.20
SS-6K6G	1.20
SS-6L6G	2.25
SS-6L7G	1.85
SS-6N6G	2.75
SS-6N7G	1.85
SS-6V6G	1.50
SS-6X5G	1.20
SS-83	1.50
SS-1620	4.70

RAYTHEON DEPENDABLE MINIATURE LAMPS

Lamp No.	Volts	Amps.	Type of Base	Approx. Candle Power	Bead Color	List Price
						Per Unit Pkg. of 10

REGULAR PANEL TYPES

R40	6-8	0.15	Miniature Screw	0.5	Brown	\$0.90
R40A	6-8	0.15	" Bayonet	0.5	Brown	0.90
R41	2.5	0.50	" Screw	0.5	White	0.90
R42	3.2	0.50	" Screw	0.75	Green	1.20
R43	2.5	0.50	" Bayonet	0.5	White	0.90
R44	6-8	0.25	" Bayonet	0.8	Blue	0.90
R45	3.2	0.50	" Bayonet	0.75	Green	1.20
R46	6-8	0.25	" Screw	0.8	Blue	0.90
R48	2.0	0.06	" Screw	0.08	Pink	1.50
R49	2.0	0.06	" Bayonet	0.08	Pink	1.50
R49A	2.1	0.12	" Bayonet	0.07	White	1.80
R50	6-8	0.20	" Screw	1.0	White	1.00
R292	2.9	0.17	" Screw	0.3	White	1.20
R292A	2.9	0.17	" Bayonet	0.3	White	1.20

AUTOMOTIVE TYPES

R51	6-8	0.20	Miniature Bayonet	1.0	White	\$0.70
R55	6-8	0.40	" Bayonet	1.5	White	0.70

Raytheon Dependable Panel Lamps are of the highest quality and are designed especially to meet the requirements of the replacement market.

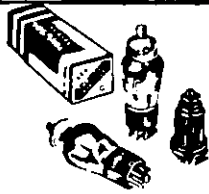
The color of the bead inside the lamp bulb may be used to identify the more common Raytheon types. This information is shown in the column headed "Bead Color."

Raytheon Miniature Lamps are packed in unit boxes of ten (10) of a type.

All orders for these lamps must be for unit quantities, or multiples, of each type.

Ask your Raytheon Jobber for the new Dealer and Service Helps folder picturing all current Raytheon display material and other selling aids.

Prices Subject To Change Without Notice



TUNG-SOL

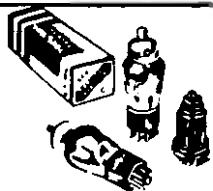
RADIO TUBES

TUNG SOL does not want just "Outlets", but rather, RETAIL PARTNERS. TUNG-SOL sales success is based on the belief in the real retail merchant—the man who lives in the community to

which he caters—who builds his business by serving his neighbors—who wants to satisfy his customers and who, therefore SELL NOTHING BUT THE HIGHEST POSSIBLE QUALITY.

PRICE LIST — DECEMBER 1, 1940

Type No.	Description	List Price	Type No.	Description	List Price
00A	Triode Detector	\$2.25	6B8 Met	Duo-Diode Pentode Amplifier	1.85
01A	Triode Amplifier	.80	CB8G	Duo-Diode Pentode Amplifier	1.20
0Z4 Met	Cold Cathode Full-Wave Rectifier	1.50	CB8GT	Duo-Diode Pentode Amplifier	1.20
0Z4G	Cold Cathode Full-Wave Rectifier	1.50	CC5 Met	Triode Amplifier	1.00
1A4P	Remote Cut-Off Pentode Amplifier	1.50	6C5G	Triode Amplifier	.90
1A5G	Power Pentode	1.50	6C5GT	Triode Amplifier	.90
1A5GT/G	Power Pentode	1.00	6C6	RF Triple Grid Amplifier	.90
1A6	Pentagrid Converter	1.20	6C7	Duo-Diode Triode Amplifier	2.25
1A7G	Pentagrid Converter	1.50	6C8G	Twin Triodes Amplifier	1.50
1A7GT	Pentagrid Converter	1.20	6D6	Remote Cut-Off Triple Grid Amplifier	.90
1B4P	RF Pentode Amplifier	1.20	6D8G	Pentagrid Converter	1.50
1B5/25S	Duo-Diode Triode Amplifier	1.20	6E5	Electron Ray Tube	1.00
1B7G	Pentagrid Converter	1.20	6E6	Twin Power Triodes	1.85
1C5G	Power Pentode	1.50	6E7	Remote Cut-Off Triple Grid Amplifier	2.25
1C5GT/G	Power Pentode	1.20	6F5 Met	High-Mu Triode Amplifier	1.00
1C6	Pentagrid Converter	1.20	6F5G	High-Mu Triode Amplifier	1.00
1C7G	Pentagrid Converter	1.20	6F5GT	High-Mu Triode Amplifier	.90
1D5GP	Remote Cut-Off Pentode Amplifier	1.20	6F6 Met	Power Pentode	1.00
1D7G	Pentagrid Converter	1.50	6F6G	Power Pentode	.80
1D8GT	Diode-Triode Power Pentode	1.85	6F7	Triode Pentode Amplifier	1.50
1E4G	Triode Amplifier	1.20	6F8G	Twin Triode Amplifiers	1.20
1E5GP	RF Pentode Amplifier	1.50	6G6G	Power Pentode	1.20
1E7G	Twin Power Pentodes	2.25	6H4GT	Single Diode Rectifier	1.85
1F4	Power Pentode	1.20	6H6 Met	Twin Diode Rectifier	1.00
1F5G	Power Pentode	1.20	6H6G	Twin Diode Rectifier	1.00
1F6	Duo-Diode Pentode Amplifier	1.50	6H6GT	Twin Diode Rectifier	1.00
1F7GH	Duo-Diode Pentode Amplifier	1.50	6J5 Met	Triode Amplifier	.80
1G4G	Triode Amplifier	1.20	6J5G	Triode Amplifier	.90
1G4GT/G	Triode Amplifier	1.00	6J5GT	Triode Amplifier	.80
1G5G	Power Pentode	1.20	6J7 Met	RF Triple Grid Amplifier	1.20
1G6G	Twin Power Triodes	1.50	6J7G	RF Triple Grid Amplifier	1.00
1G6GT/G	Twin Power Triodes	1.50	6J7GT	RF Triple Grid Amplifier	1.00
1H4G	Triode Amplifier	.90	6J8G	Triode Heptode Converter	1.50
1H5G	Diode Triode Amplifier	1.20	6K5G	High-Mu Triode Amplifier	1.00
1H5GT	Diode Triode Amplifier	1.00	6K6G	Power Pentode	1.00
1H6G	Duo-Diode Triode Amplifier	1.20	6K6GT/G	Power Pentode	.90
1J5G	Power Pentode	1.85	6K7 Met	Remote Cut-Off Triple Grid Amplifier	1.00
1J6G	Twin Power Triodes	1.20	6K7G	Remote Cut-Off Triple Grid Amplifier	1.00
1LA4 Loo	Power Pentode	2.25	6K7GT	Remote Cut-Off Triple Grid Amplifier	.90
1LA6 Loo	Pentagrid Converter	2.25	6K8 Met	Triode Hexode Converter	1.20
1LB4	Power Pentode	2.25	6K8G	Triode Hexode Converter	1.20
1LH4 Loo	Diode-Triode Amplifier	2.25	6K8GT	Triode Hexode Converter	1.20
1LN5 Loo	RF Triple Grid Amplifier	2.25	6L5G	Triode Amplifier	1.00
1N5G	RF Pentode Amplifier	1.50	6L6 Met	Beam Power Tube	1.85
1N5GT	RF Pentode Amplifier	1.20	6L6G	Beam Power Tube	1.85
1N6G	Diode-Power Triode	1.20	6L7 Met	Pentagrid Mixer	1.50
1P5G	Remote Cut-Off Triple-Grid Amplifier	1.50	6L7G	Pentagrid Mixer	1.50
1P5GT	Remote Cut-Off Triple-Grid Amplifier	1.50	6N6G	Dynamic Coupled Triodes	2.25
1Q5G	Beam Power Tube	1.50	6N7 Met	Twin Power Triodes	1.50
1Q5GT/G	Beam Power Tube	1.50	6N7G	Twin Power Triodes	1.50
1T5GT	Beam Power Tube	1.50	6P5GT	Triode Amplifier	.70
1V	Half-Wave Rectifier	.90	6P7G	Triode Pentode Amplifier	2.25
2A3	Power Triode	1.85	6Q7 Met	Duo-Diode High-Mu Triode Amplifier	1.20
2A4G	Argon Filled Thyatron	2.75	6Q7G	Duo-Diode High-Mu Triode Amplifier	.80
2A5	Power Pentode	.90	6Q7GT	Duo-Diode High-Mu Triode Amplifier	.80
2A6	Duo-Diode High-Mu Triode Amplifier	.90	6R7 Met	Duo-Diode Triode Amplifier	1.50
2A7	Pentagrid Converter	1.00	6R7G	Duo-Diode Triode Amplifier	1.00
2B7	Duo-Diode Pentode Amplifier	1.20	6R7GT	Duo-Diode Triode Amplifier	.80
2E5	Electron Ray Tube	1.20	6S7 Met	Remote Cut-Off Triple Grid Amplifier	1.50
2G5	Electron Ray Tube	1.50	6S7G	Remote Cut-Off Triple Grid Amplifier	1.50
3A8GT	Diode Triode Pentode Amplifier	2.25	6SA7 Met	Pentagrid Converter	.90
3Q5GT/G	Beam Power Tube	1.50	6SA7GT/G	Pentagrid Converter	1.00
5T4 Met	Full-Wave Rectifier	1.85	6SC7 Met	Twin Triodes Amplifier	1.20
5U4G	Full-Wave Rectifier	.90	6SD7GT	Semi-Remote Cut-Off Triple Grid Amplifier	1.20
5V4G	Full-Wave Rectifier	1.50	6SF5 Met	High-Mu Triode Amplifier	.90
5W4 Met	Full-Wave Rectifier	1.00	6SF5GT	High-Mu Triode Amplifier	.90
5W4G	Full-Wave Rectifier	1.00	6SJ7 Met	RF Triple Grid Amplifier	1.00
5W4GT/G	Full-Wave Rectifier	.80	6SJ7GT	RF Triple Grid Amplifier	1.00
5X4G	Full-Wave Rectifier	1.00	6SK7 Met	Remote Cut-Off Triple Grid Amplifier	.90
5Y3G	Full-Wave Rectifier	.60	6SK7GT/G	Remote Cut-Off Triple Grid Amplifier	1.00
5Y4G	Full-Wave Rectifier	.65	6SOT Met	Duo-Diode High-Mu Triode Amplifier	.90
5Z3	Full-Wave Rectifier	1.00	6SOTGT/G	Duo-Diode High-Mu Triode Amplifier	1.00
5Z4 Met	Full-Wave Rectifier	1.20	6SR7	Duo-Diode Triode Amplifier	1.00
6A3	Power Triode	1.85	6T7G/6Q6G	Duo-Diode High-Mu Triode Amplifier	1.20
6A4/LA	Power Pentode	1.50	6U5/6G5	Electron Ray Tube	1.20
6A5G	Power Triode	2.75	6U6GT	Beam Power Tube	1.20
6A6	Twin Power Triodes	1.50	6U7G	Remote Cut-Off Triple Grid Amplifier	.90
6A7	Pentagrid Converter	.90	6V6 Met	Beam Power Tube	1.85
6A8 Met	Pentagrid Converter	1.20	6V6G	Beam Power Tube	1.20
6A8G	Pentagrid Converter	.90	6V6GT/G	Beam Power Tube	1.00
6A8GT	Pentagrid Converter	.90	6V7G	Duo-Diode Triode Amplifier	1.20
6AB5/6N5	Electron Ray Tube	1.50	6W5G	Full-Wave Rectifier	1.85
6AC5G	Power Triode	1.20	6W7G	RF Triple Grid Amplifier	1.50
6AC5GT/G	Power Triode	1.00	6X5 Met	Full-Wave Rectifier	1.50
6AD6G	Electron Ray Tube	1.50	6X5G	Full-Wave Rectifier	1.00
6AE5GT/G	Triode Amplifier	1.20	6X5GT/G	Full-Wave Rectifier	.90
6AE6G	Single Grid Twin Plate Control Tube	1.20	6Y5	Full-Wave Rectifier	2.25
6AF5G	Triode Amplifier	1.20	6Y6G	Beam Power Tube	1.50
6AF6G	Electron Ray Tube	1.50	6Y7G	Twin Power Triodes	1.50
6B4G	Power Triode	1.85	6Z5/12Z5	Full-Wave Rectifier	2.25
6B5	Dynamic Coupled Triodes	1.85	6Z7G	Twin Power Triodes	1.85
6B7	Duo-Diode Pentode Amplifier	1.20	6ZY5G	Full-Wave Rectifier	1.20



TUNG-SOL

RADIO TUBES

Type No.	Description	List Price	Type No.	Description	List Price
7A4 Loc	Triode Amplifier	1.20	2526 Met	Full-Wave Rectifier Voltage Doubler	1.20
7A5 Loc	Beam Power Tube	\$1.20	2526G	Full-Wave Rectifier Voltage Doubler	.90
7A6 Loc	Twin Diode Rectifier	1.20	2526GT/G	Full-Wave Rectifier Voltage Doubler	.90
7A7 Loc	Remote Cut-Off Triple Grid Amplifier	1.20	26	Triode Amplifier	.65
7A8 Loc	Octode Converter	1.20	27	Triode Amplifier	.60
7B4 Loc	High-Mu Triode	1.20	30	Triode Amplifier	.90
7B5 Loc	Power Pentode	1.20	31	Power Triode	.90
7B6 Loc	Duo-Diode High-Mu Triode Amplifier	1.20	32	RF Tetrode Amplifier	1.20
7B7 Loc	Remote Cut-Off RF Triple Grid Amplifier	1.20	32L7GT	Beam Power Tube Half-Wave Rectifier	1.85
7B8 Loc	Pentagrid Converter	1.20	33	Power Pentode	1.20
7C5 Loc	Beam Power Tube	1.20	34	Remote Cut-Off Pentode Amplifier	1.20
7C6 Loc	Power Triode	1.20	35	Remote Cut-Off Tetrode Amplifier	.90
7C7 Loc	R.F. Triple Grid Amplifier	1.20	35A5 Loc	Beam Power Tube	1.20
7E6 Loc	Duo-Diode Triode Amplifier	1.20	35L6GT/G	Beam Power Tube	.90
7E7 Loc	Duo-Diode Pentode Amplifier	1.50	35Z3 Loc	Half-Wave Rectifier	1.20
7F7 Loc	Twin Triodes Amplifier	1.50	35Z4GT	Half-Wave Rectifier	.70
7G7/1232 Loc	Triple Grid Amplifier	1.85	35Z5GT/G	Half-Wave Tapped Heater Rectifier	.75
7H7 Loc	Semi-Remote Cut-Off Triple Grid Amplifier	1.85	36	RF Tetrode Amplifier	.90
7J7 Loc	Triode Heptode Converter	1.85	37	Triode Amplifier	.75
7L7 Loc	RF Triple Grid Amplifier	1.85	38	Power Pentode	1.00
7Q7 Loc	Pentagrid Converter	1.20	39/44	Remote Cut-Off Pentode Amplifier	.90
7Y4 Loc	Duo-Diode High-Mu Triode Amplifier	1.20	40	High-Mu Triode Amplifier	1.50
10	Full-Wave Rectifier	2.75	41	Power Pentode	.75
12A	Triode Amplifier	.90	42	Power Pentode	.75
12A5	Power Pentode	2.25	43	Power Pentode	1.00
12A7	Power Pentode Half-Wave Rectifier	1.85	45	Power Triode	.70
12A8GT	Pentagrid Converter	.90	45Z5GT	Half-Wave Tapped Heater Rectifier	1.00
12B7 Loc	Remote Cut-Off Triple Grid Amplifier	1.85	46	Dual Grid Power Tube	1.00
12B8GT	Triode-Remote Cut-Off Pentode Amplifier	1.50	47	Power Pentode	1.00
12C8	Duo-Diode Pentode Amplifier	1.85	48	Power Tetrode	2.75
12E5GT	Triode Amplifier	1.50	49	Dual Grid Power Tube	1.20
12F5GT	High-Mu Triode Amplifier	.90	50	Power Triode	2.25
12J5GT	Triode Amplifier	.90	50L6GT	Beam Power Tube	1.00
12J7GT	RF Triple Grid Amplifier	1.00	50Y6GT/G	Full-Wave Rectifier Voltage Doubler	1.00
12K7GT	Remote Cut-Off Triple Grid Amplifier	.90	50Z7G	Full-Wave Tapped Heater Rectifier	1.20
12Q7GT	Duo-Diode High-Mu Triode Amplifier	.80	53	Twin Power Triodes	1.50
12SA7 Met	Pentagrid Converter	.90	55	Duo-Diode Triode Amplifier	1.00
12SA7GT/G	Pentagrid Converter	1.20	56	Triode Amplifier	.70
12SC7 Met	Twin Triodes Amplifier	1.20	57	RF Triple Grid Amplifier	.80
12SF5 Met	High-Mu Triode Amplifier	1.00	58	Remote Cut-Off Triple Grid Amplifier	.80
12SF5GT	High-Mu Triode Amplifier	1.00	59	Triple Grid Power Tube	1.50
12SJ7 Met	RF Triple Grid Amplifier	1.00	70A7GT	Beam Power Tube Half-Wave Tapped Rectifier	2.25
12SJ7GT	RF Triple Grid Amplifier	1.00	70L7GT	Beam Power Tube Half-Wave Rectifier	1.85
12SK7 Met	Remote Cut-Off Triple Grid Amplifier	.90	71A	Power Triode	.80
12SK7GT/G	Remote Cut-Off Triple Grid Amplifier	1.00	75	Duo-Diode High-Mu Triode Amplifier	.75
12SQ7 Met	Duo-Diode High-Mu Triode Amplifier	.90	76	Triode Amplifier	.80
12SQ7GT/G	Duo-Diode High-Mu Triode Amplifier	1.00	77	RF Triple Grid Amplifier	.80
12Z3	Half-Wave Rectifier	.90	78	Remote Cut-Off Triple Grid Amplifier	.80
15	RF Pentode Amplifier	1.85	79	Twin Power Triodes	1.50
19	Twin Power Triodes	1.20	80	Full-Wave Rectifier	.60
20	Power Triode	2.75	81	Half-Wave Rectifier	1.85
22	RF Tetrode Amplifier	2.25	82	Mercury Vapor Full-Wave Rectifier	1.20
24	RF Tetrode Amplifier	.80	83	Mercury Vapor Full-Wave Rectifier	1.20
25A6 Met	Power Pentode	1.85	83V	Full-Wave Rectifier	1.85
25A6G	Power Pentode	1.00	84/6Z4	Full-Wave Rectifier	1.00
25A6GT/G	Power Pentode	1.00	85	Duo-Diode Triode Amplifier	.80
25A7G	Power Pentode Half-Wave Rectifier	1.50	89	Triple Grid Power Tube	.90
25A7GT/G	Power Pentode Half-Wave Rectifier	1.50	99V	Triode Amplifier	2.75
25AC5GT/G	Power Triode	1.50	99X	Triode Amplifier	2.75
25B5	Dynamic Coupled Triodes	2.25	117L7GT	Beam Power Tube Half-Wave Rectifier	2.25
25B6G	Power Pentode	1.85	117N7GT	Beam Power Tube Half-Wave Rectifier	2.25
25B8GT	Triode-Remote Cut-Off Pentode Amplifier	1.85	117Z6GT/G	Full-Wave Rectifier Voltage Doubler	1.50
25C6G	Beam Power Tube	1.85	183	Power Triode	1.85
25D8GT	Diode Triode Pentode Amplifier	1.85	257	Power Pentode	2.75
25L6 Met	Beam Power Tube	1.50	485	Triode Amplifier	1.85
25L6G	Beam Power Tube	1.20	950	Power Pentode	1.85
25L6GT/G	Beam Power Tube	1.00	XDX	Twin Triodes	1.50
25N6G	Dynamic Coupled Triodes	2.25	XXL	Triode	1.50
25Z5	Full-Wave Rectifier Voltage Doubler	.90			

TUNG-SOL RADIO DIAL LAMPS

are designed for use in A-C, D-C and battery sets. Precise manufacturing methods and rigid engineering requirements assure the user of efficient illumination and long life.

Lamp No.	Volts	Amperes	Approx. Candle-Power	Bead Color	Base	Bulb Type	List Price
40	6-8	0.15	0.5	Brown	Miniature Screw	T-3 1/4	.09
†40A							†
41	2.5	0.50	0.5	White	Miniature Screw	T-3 1/4	.09
42	3.2	0.35	0.75	Green	Miniature Screw	T-3 1/4	.12
43	2.5	0.50	0.5	White	Miniature Bayonet	T-3 1/4	.09
44	6-8	0.25	0.8	Blue	Miniature Bayonet	T-3 1/4	.09
45	3.2	0.50	0.75	Green	Miniature Bayonet	T-3 1/4	.12
46	6-8	0.25	0.8	Blue	Miniature Screw	T-3 1/4	.09
47	6-8	0.15	0.5	Brown	Miniature Bayonet	T-3 1/4	.09
†48	2.0	0.06		Pink	Miniature Screw	T-3 1/4	.15
†49	2.0	0.06		Pink	Miniature Bayonet	T-3 1/4	.15
†	2.1	0.12		White	Miniature Screw	T-3 1/4	.22
§*	2.1	0.12			Miniature Bayonet	G-3 1/2	.22
50	6-8	0.20	1.0	White	Miniature Screw	G-3 1/2	.10
51	6-8	0.20	1.0	White	Miniature Bayonet	G-3 1/2	.07
55	6-8	0.40	1.5	White	Miniature Bayonet	G-4 1/2	.07

* Sometimes referred to as No. 40-A

† Same as No. 47

‡ For battery sets

§ Replace with No. 49

¶ Replace with No. 48

NATIONAL UNION RADIO TUBES

GT is recommended replacement type in groups boxed.

PRICE LIST EFFECTIVE NOV. 1st, 1940

Light face ("a" to "e" letters) indicate carton size.

(Paranthesis indicates usually interchangeable.)

Type	List Price	Type	List Price	Type	List Price	Type	List Price	Type	List Price	Type	List Price	Type	List Price		
0A4G	a \$1.85	2A7S	b \$2.25	6H6(m)	d \$1.00	6Y6G	a \$1.50	25A7G	b \$1.50	75	a \$0.75	1A5G	e 1.50		
0Z4(m)	d 1.50	2B7	a 1.20	6H6G	a 1.00	6Y7G	a 1.50	25A7GT	e 1.50	76	a .80	1A5GT	e 1.00		
0Z4G	d 1.50	2E5	a 1.20	6H6GT	e 1.00	6Y5V	b 2.25	25AC5G	a 1.50	77	a .80	1A6	a 1.20		
00A	b 2.25	2W3(m)	d 1.20	6J5(m)	d .80	6Z5	a 2.25	25B6G	b 1.85	78	a .80	1A7G	e 1.50		
01A	b .80	3Q5GT	e 1.50	6J5G	a .90	6Z7G	a 1.85	25B8GT	e 1.85	79	a 1.50	1A7GT	e 1.20		
1A4	a 1.50	5T4(m)	a 1.85	6J5GT	e .80	6ZY5G	a 1.20	25C6G	a 1.85	80	b .60	1B4	a 1.20		
1A5G	e 1.50	5U4G	c .90	6J7(m)	d 1.20	7A4	e 1.20	25L6(m)	d 1.50	81	c 1.85	1B5 / 25S	a 1.20		
1A5GT	e 1.00	5V4G	b 1.50	6J7G	a 1.00	7A5	e 1.20	25L6G	b 1.20	82	b 1.20	1C5G	e 1.50		
1A6	a 1.20	5W4(m)	d 1.00	6J7GT	e 1.00	7A6	e 1.20	25L6GT	e 1.00	83	a 1.20	1C5GT	e 1.20		
1A7G	e 1.50	5W4G	b .80	6J8G	a 1.50	7A7	e 1.20	25N6G	a 2.25	83V	b 1.85	1C6	a 1.20		
1A7GT	e 1.20	5X4G	e 1.00	6K5G	a 1.00	7A8	e 1.20	25Y5	a 2.25	84 6Z4	a 1.00	1C7G	a 1.20		
1B4	a 1.20	5Y3G	b .60	6K5GT	e 1.00	7B5	e 1.20	25Z5	a .90	G84	2Z2	a 2.25	1D5GP	a 1.20	
1B5 / 25S	a 1.20	5Y4G	b .85	6K6G	a 1.00	7B6	e 1.20	25Z6(m)	d 1.20	85	a .80	1D5GT	a 1.20		
1C5G	e 1.50	5Z3	c 1.00	6K6GT	e .90	7B7	e 1.20	25Z6G	a .90	85AS	b 2.25	1D7G	a 1.50		
1C5GT	e 1.20	5Z4(m)	d 1.20	6K7(m)	d 1.00	7B8	e 1.20	25Z6GT	e .90	89	a .90	1D8GT	e 1.85		
1C6	a 1.20	6A3	c 1.85	6K7G	a 1.00	7C5	e 1.20	26	b .65	99V	e 2.75	1E5G	a 1.50		
1C7G	a 1.20	6A4	b 1.50	6K7GT	e .90	7C6	e 1.20	27	a .60	99X	e 2.75	1E7G	a 2.25		
1D5GP	a 1.20	6A5G	b 2.75	6K8(m)	d 1.20	7C7	e 1.20	27S	b 2.25	117L7GT	e 2.25	1F4	b 1.20		
1D5GT	a 1.20	6A6	b 1.50	6K8G	a 1.20	7E6	e 1.20	30	a .90	117Z6GT	e 1.50	1F5G	b 1.20		
1D7G	a 1.50	6A7	a .90	6K8GT	d 1.20	7E7	e 1.50	31	a .90	182B	482B	b 1.85	1F6	a 1.50	
1D8GT	e 1.85	6A7S	b 2.25	6L5G	a 1.00	7F7	e 1.50	32	b 1.20	401	c 1.85	1F7G	a 1.50		
1E5G	a 1.50	6A8(m)	d 1.20	6L6(m)	a 1.85	7G7	e 1.20	32L7GT	e 1.85	483	b 1.85	1F7GH	a 1.50		
1E7G	a 2.25	6A8G	a .90	6L6G	e 1.85	1232	e 1.85	33	b 1.20	485	a 1.85	1G4G	e 1.20		
1F4	b 1.20	6A8GT	e .90	6L7(m)	d 1.50	7J7	e 1.85	34	b 1.20	950	b 1.85	1G4GT	e 1.00		
1F5G	b 1.20	6AB5	e 1.50	6L7G	a 1.50	7Q7	e 1.20	35 51	b .90	XXD	e 1.50	1G6G	e 1.50		
1F6	a 1.50	6AB7	a 1.85	6N6G	b 2.25	7Y4	e 1.20	35A5	d 1.20	XXL	e 1.50	1G6GT	e 1.50		
1F7G	a 1.50	6AC5G	a 1.20	6N7(m)	d 1.50	10	e 2.75	35L6G	a 1.20			1H4G	a .90		
1F7GH	a 1.50	6AC5GT	e 1.00	6N7G	b 1.50	12A	a .90	35L6GT	e .90			1H5G	e 1.20		
1G4G	e 1.20	6AC7	1852(m)	d 2.25	6P5G	a .75	12A5	a 2.25	35S 51S	e 2.25			1H5GT	e 1.00	
1G4GT	e 1.00	6AD6G	e 1.50	6AD6G	e 1.50	6P5GT	e .70	12A7	a 1.85	35Z4GT	e .70			1H6G	a 1.20
1G5G	b 1.20	6AE6G	a 1.20	6AF5G	a 1.20	6P7G	a 2.25	12A8G	a 1.20	35Z5G	a 1.20			1J5G	b 1.85
1G6G	e 1.50	6AF6G	e 1.50	6B4G	e 1.85	6Q7(m)	d 1.20	12A8GT	e .90	35Z5GT	e .75			1J6G	a 1.20
1G6GT	e 1.50	6B5	b 1.85	6B5	b 1.85	6Q7G	a .80	12B8GT	e 1.50	36	a .90			1LA4	e 2.25
1H4G	a .90	6B6G	a 1.00	6B6G	a 1.00	6Q7GT	e .80	12F5GT	e .90	37	a .75			1LA6	e 2.25
1H5G	e 1.20	6B7S	b 2.25	6B7S	b 2.25	6R7(m)	d 1.50	12J5GT	e .90	38	a 1.00			1LN5	e 2.25
1H5GT	e 1.00	6B8(m)	d 1.85	6B8(m)	d 1.85	6R7G	a 1.00	12J7GT	e 1.00	39 44	a .90			1N5G	e 1.50
1H6G	a 1.20	6B8G	a 1.20	6B8G	a 1.20	6R7GT	e .80	12K7G	a 1.20	41	a .75			1N5GT	e 1.20
1J5G	b 1.85	6C5(m)	d 1.00	6C5(m)	d 1.00	6S7G	a 1.50	12K7GT	e .90	42	b .75			1N6G	e 1.20
1J6G	a 1.20	6C5G	a .90	6C5G	e .90	6SA7(m)	d .90	12Q7G	a 1.20	43	b 1.00			1P5G	a 1.50
1LA4	e 2.25	6C5GT	e .90	6C5GT	e .90	6SA7GT	e 1.00	12Q7GT	e .80	45	b .70			1P5GT	e 1.50
1LA6	e 2.25	6C6	a .90	6C6	a .90	6SC7(m)	d 1.20	12SA7(m)	d .90	45Z5GT	e 1.00			1Q5GT	e 1.50
1LH4	e 2.25	6C7	b 2.25	6C7	b 2.25	6SF5(m)	d .90	12SA7GT	e 1.20	46	e 1.00			1T5GT	e 1.50
1LN5	e 2.25	6C8G	a 1.50	6C8G	a 1.50	6SF5GT	e .90	12SC7(m)	d 1.20	47	e 1.00			1V	a .90
1N5G	e 1.50	6D6	a .90	6D6	a .90	6SJ7(m)	d 1.00	12SF5GT	e 1.00	48	e 2.75			2A3	e 1.85
1N5GT	e 1.20	6D7	b 2.25	6D7	b 2.25	6SJ7GT	e 1.00	12SJ7(m)	d 1.00	48	e 2.75			2A4G	a 2.75
1N6G	e 1.20	6D8G	a 1.50	6D8G	a 1.50	6SK7(m)	d .90	12SJ7GT	e 1.00	49	b 1.20			2A5	b .90
1P5G	a 1.50	6E5	a 1.00	6E5	a 1.00	6SK7GT	e 1.00	12SK7(m)	d .90	50	e 2.25			2A6	a .90
1P5GT	e 1.50	6E6	b 1.85	6E6	b 1.85	6SQ7(m)	d .90	12SK7GT	e 1.00	50L6GT	e 1.00			2A7	a 1.00
1Q5GT	e 1.50	6E7	b 2.25	6E7	b 2.25	6SQ7GT	e 1.00	12SQ7(m)	d .90	50Z7G	a 1.20				
1T5GT	e 1.50	6F5(m)	d 1.00	6F5(m)	d 1.00	6T7G	a 1.20	12SQ7GT	e 1.00	53	b 1.50				
1V	a .90	6F5G	a 1.00	6F5G	a 1.00	6U5 / 6G5	e 1.20	12Z3	a .90	55	a 1.00				
2A3	e 1.85	6F5GT	e .90	6F5GT	e .90	6U7G	a .90	15	a 1.85	55S	b 2.25				
2A4G	a 2.75	6F6(m)	d 1.00	6F6(m)	d 1.00	6V6(m)	d 1.85	18	b 1.85	56	a .70				
2A5	b .90	6F6G	b .80	6F6G	b .80	6V6G	a 1.20	19	a 1.20	56S	b 2.25				
2A6	a .90	6F7	a 1.50	6F7	a 1.50	6V6GT	e 1.00	20	e 2.75	57	a .80				
2A7	a 1.00	6F7S	b 2.25	6F7S	b 2.25	6V7G	a 1.20	22	e 2.25	57S	b 2.25				
		6F8G	a 1.20	6F8G	a 1.20	6W7G	a 1.50	24A	b .80	57AS	b 2.25				
		6G6G	a 1.20	6G6G	a 1.20	6X5(m)	d 1.50	24S	e 2.25	58	a .80				
		6H4GT	e 1.85	6H4GT	e 1.85	6X5G	a 1.00	25A6(m)	d 1.85	58S	b 2.25				
						6X5GT	e .90	25A6G	a 1.00	58AS	b 2.25				
								25A6GT	e 1.00	59	e 1.50				
										70A7GT	e 2.25				
										70L7GT	e 1.85				
										71A	b .80				

OBSOLETE OR SMALL DEMAND TYPES

01AA a \$0.80
 2V3G a 2.75
 2Y2 a 3.00
 4A6G a 2.10
 6AB6G a 2.10
 6AESG a 1.60
 6W5G a 1.50
 25B5 a 2.60
 1851(m) d 3.00

Obsolete or small demand types available direct from factory thru your N.U. Distributor (add 10% per tube for direct shipment).

SOUND XTRA TUBES

5U4G \$1.20
 5V4G 1.70
 5Y3G .75
 5Z4GT/G 1.50
 6F6G 1.10
 6L6G 2.25
 6J5GT/G 1.10
 6J7G 3.50
 6J7GT 3.50
 6N7GT/G 1.85
 6V6G 1.50
 6V6GT/G 1.50
 6W5G 1.85
 NU540SX 2.25
 NU576SX 1.85

Long Life Tubes • Complete Renewal Service for All Radios



14 WATT PORTABLE UNIT

Provisions for Remote Control, Paging Switch, and Headphone or Meter Monitoring. Three Channel Input—Electronically Mixed Two Microphones and One Phonograph. Full protected, recessed, illuminated controls. Beam Power Tubes. Cathode Degeneration. Three-piece Carrying Case houses Model 1010-A Amplifier, two 12" Heavy Duty Permanent Magnet Dynamic Speakers, Acorn Diaphragm Type Crystal Microphone, Speaker and Microphone Cords. **SPECIFICATIONS:** Number of Stages: 4; Tube Complement: 2—6J7, 1—6F5, 1—6F8G, 2—6V6G, 1—80; Overall Gain: Each Microphone, 134 db.; Phonograph, 83 db. Rated Output: 14 watts. Output Impedances: 3, 6, 250, 500 ohms through three polarized output receptacles. Designed for use with permanent magnet dynamic speakers. Has AC Power Switch. Has High Frequency Tone Control. Power Supply: 105-125 volts, 60 cycle AC only. Power Consumption: 100 watts. Overall Dimensions: 19 1/2" high x 15 1/4" wide x 12 3/4" deep. Net Weight: 43 lbs. Shipping Weight: 48 lbs. Finish: Amplifier, durable gray baked wrinkle; Case, two-tone gray leatherette.

Model 414—Portable Public Address Unit, less Tubes. Price **\$135.00**
 Model 1010-A—Amplifier, as used in Model 414, less Tubes. Price **\$60.00**
 Tubes for Models 141 and 1010-A, per set. **\$6.85**

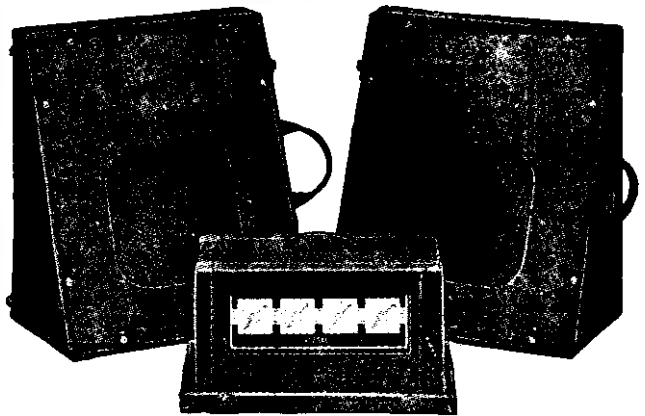


30 WATT PORTABLE UNIT

Provisions for Remote Mixtrol, Paging Switch, Headphone, Meter, or Auxiliary Monitoring. Uses Beam Power Tubes. Three Channel Input. Incorporates Individual Bass and Treble Tone Compensators. Adjustable Multi-Stage Degeneration. Split Speaker Case Incorporates two OPERADIO 12" Extra Heavy Duty Permanent Magnet Dynamic Speakers. Amplifier Case carries Amplifier, Microphone, Microphone Stand and the necessary Cords.

SPECIFICATIONS: Number of Stages: 4; Tube Complement: 2—6J7, 1—6F5, 1—6F8G, 2—6L6G, 1—5Z3. Overall Gain: Each Microphone, 137 db.; Phonograph, 85 db. Rated Output: 30 watts. Output Impedances: 4, 8, 250, 500 ohms through three polarized receptacles. Designed for use with permanent magnet speakers. Controls: Two separate electronic mixing controls for microphones. One mixing control for phonograph. One treble tone control. One bass compensator. Power Supply: 105-125 volt, 50-60 cycle AC. Power Consumption: 110 watts. Overall Dimensions: Amplifier Case, 8 3/4" high x 16 1/4" long x 9" deep. Speaker Case, 22" high x 21 1/4" wide x 13 1/2" deep. Net Weight: 62 lbs. Shipping Weight: 75 lbs.

Model 425-GGB—Portable Public Address Unit, complete with crystal microphone, microphone floor stand, less Tubes. Price **\$235.00**
 Model 1025—Amplifier, as used in Model 425-GGB, less Tubes. Price **\$95.00**
 Tubes for Models 425-GGB and 1025, per set. **\$8.25**



MIXER PRE-AMPLIFIERS

The Model 950 Portable Microphone Mixer Pre-Amplifier will drive from one to six Model 370-B Booster Amplifiers, a balanced or single ended output line at approximately zero level, or both simultaneously. It has provisions for mixing two microphones and the use of the Remote Mixtrol. It has a high frequency tone control and provisions for separate phono unit having its own volume control. All controls are set in an illuminated recess on the front of the Pre-Amplifier.

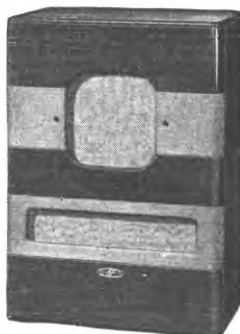
Price **\$70.00**
 Tubes for Model 950, per set. **\$.485**

A four-position Mixer Pre-Amplifier with a master volume control. It incorporates an electron ray tube with a sensitivity control permitting the adjustment of the output of the booster from approximately 1 watt to full output with a corresponding control on a zero level output line. Has a three-position low frequency tone control and a continuously variable high frequency tone control, making it adaptable for indoor or outdoor public address service or a broadcast line. Has provisions for Remote Mixtrol.

Model 990—Mixer Pre-Amplifier, less Tubes. Price **\$140.00**
 Tubes for Model 990 per set. **\$.960**

SPEAKER HOUSINGS

Operadio's complete line of Speaker Housings has been designed as a link in the chain of Unit Match Sound Equipment. There is an Operadio Speaker Enclosure to meet every requirement, from sound cars to stadiums and from small rooms to auditoriums. Each has been designed and tested to bring out the best in the speaker it carries. For beauty, efficiency, and all-around utility, we recommend the AR Series



of Enclosures which embody the Acousti-Reflex principle.

Model	Size	Price
AR-8	8 inch	\$17.50
AR-10	10 inch	21.50
AR-12	12 inch	25.00
AR-15	15 inch	29.25

The Model VR Acousti-Reflex Speaker Housings are recommended for installations where the reproduction of the speaking voice is paramount.

Model	Size	Price
VR-8	8 inch	\$ 7.85
VR-10	10 inch	9.75
VR-12	12 inch	11.00

Intercommu-Paging System—Type "BH"

A combination paging and intercommunicating system with from 1 to 3 Master Stations and as many Outlying Stations as may be desired. Master Stations may call and converse with one Station or may page all Stations simultaneously. Outlying Stations may call Master Stations by the addition of a Call Switch.

Operadio also manufactures a complete line of—

- Public Address Speakers
- Radio Replacement Speakers
- Speaker Cabinets and other
- Public Address Accessories

Complete catalog available on request.



Phonograph Units

MODEL A-3925-A
 Deluxe type turntable designed for high-grade heavy duty service. Streamlined carrying case. Two speed motor permits the playing of 33-1/3 and 78 r.p.m. records of 10, 12, and 16" size. Incorporates inbuilt Volume Control, a Tone Control, a Scratch Filter, and is equipped with Crystal Pickup. Price **\$75.00**

MODEL A-4225
 An inexpensive Type Turntable with single speed 78 r.p.m. motor. Plays records of 10 and 12" size. Incorporates Volume Control, Crystal Pickup, and "on-off" Switch. Price **\$39.00**

Industrial Paging Foundation Kit

The Model 411 Industrial Paging Foundation Kit consists of a microphone, a microphone stand, and a foot switch. May be incorporated with any Operadio Amplifier and required number of speaker assemblies. Price **\$40.00**



55 WATT BASE TYPE AMPLIFIER



Uses beam power tubes in latest and most efficient type of circuit . . . developed by Operadio. Four channel input . . . electronically mixes three microphones and phonograph or auxiliary input. Provisions for Remote Control. Has volume expansion and volume compression. Has electronic visual overload indicator, electronic visual output indicator and new non-resonant equalizer used as tone balancer for both high and low frequencies. Master gain control.

SPECIFICATIONS: Number of Stages: 6. Tube Complement: 4—6F5, 1—6L7, 1—6C5, 1—6F6, 1—6H6, 1—6E5, 2—6L6G, 1—80, 1—83. Overall Gain: Microphone, 144 db.; Phonograph, 94 db. Rated Output: 55 watts. Output Impedances: 2, 4, 8, 125, 250, 500 ohms. Designed for use with permanent magnet dynamic speakers or separately excited electro dynamic speakers. Controls: Three microphone mixer-volume controls. One phonograph mixer-volume control. One master volume control. One combination high and low frequency equalizer. One power level and expansion control. One expander-compression switch. Provision for Remote Control; power switch; pilot light; and fuse; 8 foot power cord. Power Supply: 105-125 volts, 50-60 cycles AC only. Power Consumption: 160 watts. Finish: Gray baked wrinkle. Overall Dimensions: 23" long x 10 7/8" high x 9 1/2" wide. Net Weight: 56 lbs. Shipping Weight 70 lbs.

Consumption: 160 watts. Finish: Gray baked wrinkle. Overall Dimensions: 23" long x 10 7/8" high x 9 1/2" wide. Net Weight: 56 lbs. Shipping Weight 70 lbs.

Model 855-AR—Base Type Amplifier, less Tubes. Price

\$195.00

Tubes for Model 855-AR, per set.....\$13.85

35 WATT BASE TYPE AMPLIFIER

Underwriter's listed. Provisions for Remote Mixtrol. Beam power tubes. Electronically mixes two microphones and phonograph. Non-resonant equalizer used as tone balancer for both high and low frequencies. Provisions for operating booster amplifier to obtain up to 420 watts additional.

SPECIFICATIONS: Number of Stages: 4. Tube Complement: 2—6J7, 1—6F5, 1—6N7, 2—6L6G, 1—83. Overall Gain: Microphone, 140 db.; Phonograph, 89 db. Rated Output: 35 watts. Output Impedances: 2, 4, 8, 125, 250, 500 ohms. Has AC "on-off" switch, pilot light, and fuse. Power Supply: 105-125 volts, 50-60 cycles AC. Power Consumption: 190 watts. Controls: Two microphone mixer-volume controls. One phonograph mixer-volume control. One combination high and low frequency equalizer. Provision for Remote Mixtrol. Provision for paging switch. One power switch, pilot light and fuse. 8 foot power cord. Finish: Gray baked wrinkle. Overall Dimensions: 16 1/2" long x 8 3/4" wide x 8 3/4" deep. Net Weight: 35 lbs. Shipping Weight: 40 lbs.

Model 835-AUR—Base Type Amplifier, less Tubes.

\$125.00

Price
Tubes for Model 835-AUR, per set.....\$8.45



70 WATT BOOSTER AMPLIFIER



Full 70 watts output. Designed for base, wall, or rack mounting. Has dual channel output. Designed for use as booster with Model 835-AUR Base Type Amplifier or Model 950 Pre-Amplifier.

SPECIFICATIONS: Number of Stages: 2. Tube Complement: 1—6F6, 4—6L6G, 2—83. Overall Gain: 27 db. Rated Output: 70 watts. Output Impedances: Two sets of output impedances: 2, 4, 8, 125, 250, 500 ohms through impedance adapter. Controls: One master volume control. One power switch, pilot light and fuse. Power Supply: 105-125 volts, 50-60 cycles AC. Power Consumption: 300 watts. Finish: Gray baked wrinkle. Overall Dimensions: 16 1/2" long x 8 3/4" wide x 8 3/4" high. Net Weight: 45 lbs. Shipping Weight: 55 lbs.

Model 870-B—Booster Amplifier, less Tubes. Price
Tubes for Model 870-B, per set.....\$9.40

\$130.00

A.C.-D.C. COMBINATION MOBILE ADDRESS SYSTEMS

14 WATT

Provisions for headphone and meter monitoring. Electronically mixes one microphone and one phonograph. Includes two Operadio 12" permanent magnet dynamic speakers. Features "Economizer Control" for battery supply. Includes latest type high impedance microphone.

SPECIFICATIONS: Number of Stages: 4. Tube Complement: 2—6F5, 1—6F8G, 2—6L6G, 1—6W5G. Overall Gain: Microphone, 125 db.; Phonograph, 70 db. Rated Output: 14 watts. Output Impedances: 3, 6, 250, 500 ohms at three polarized receptacles. Controls: One microphone mixer-volume control. One phonograph mixer-volume control. One high frequency tone control. One combination AC power and "Economizer" Switch. One filament switch; Pilot light; 5 foot battery cable; 8 foot AC cord. Power Supply: 105-125 volt, 50-60 cycle AC—6 volts DC. Power Consumption: AC 110 watts; DC 17 amperes. Overall Dimensions: 12" wide x 11" deep x 7" high. Net Weight: (Amplifier) 27 lbs. Shipping Weight: (Amplifier) 32 lbs. (Speakers) 21 lbs.

Model 164—Mobile Public Address System, less Tubes.

\$165.00

Price
Tubes for Model 164, per set.....\$6.75
All Operadio Public Address Amplifiers and Intercommunicating Systems are licensed by Electrical Research Products, Incorporated under U. S. patents of the American Telephone and Telegraph Company and Western Electric Company, Incorporated.

25 WATT

Full 25 watts output. Uses beam power tubes. Provisions for Remote Control, Headphone and Meter Monitoring. Electronically mixes one microphone and one phonograph. Includes two 12" heavy duty permanent magnet dynamic speakers and hand type dynamic microphone with switch. Has auxiliary input and "Economizer Control" for battery supply.

SPECIFICATIONS: Number of Stages: 4. Tube Complement: 1—6J7, 1—6C5, 6F8G, 2—6L6G, 1—523. Overall Gain: Microphone, 135 db.; Phonograph, 75 db. Rated Output: 25 watts. Output Impedances: 4, 8, 250, 500 ohms through polarized receptacles. Designed for use with permanent magnet dynamic speakers. Controls: One microphone mixer-volume control. One phonograph-auxiliary mixer-volume control. One high frequency tone control. One combination AC power and "Economizer" switch. One filament switch; Fuse and pilot light; 5 foot battery cable; 8 foot AC cord. Includes single speed 78 r.p.m. 12" turntable. Power Supply: 105-125 volt, 50-60 cycle AC—6 volts D.C. Power Consumption: AC 110 watts; DC, Amplifier, 16 amperes; Phonograph 2 1/2 amperes. Finish: Gray baked wrinkle. Overall Dimensions: (Amplifier) 10 1/2" high x 16 1/2" wide x 16 1/2" deep. Net Weight: (Complete) 64 lbs. Shipping Weight: (Complete) 74 lbs.

Model 172—Mobile Public Address System, less Tubes. Price
Tubes for Model 172, per set.....\$7.25

\$245.00



RECORD CHANGERS AND RECORDERS



The W-1205 is a complete system in one case, containing recorder with crystal head that cuts the grooves as it records, two-ounce pressure crystal pick-up for play-back, recording amplifier with tubes, crystal microphone, loud speaker and all necessary controls including volume level meter. Will record up to 12" blanks at 78 RPM.

Recording rate is 98 lines per inch or $5\frac{1}{4}$ minutes at 78 RPM. Special design clutch allows immediate setting of cutting needle at starting edge or at any point on the record blank. Drive mechanism is of the worm reduction type with clutch, geared direct to cutting arm.

Auxiliary input available for re-recording from original or commercial recordings using external phono reproducer. Twelve inch records may be reproduced on the play-back. Equipped with 8 foot power cord and jack for plugging in external speaker, adapting equipment to use as a 10 watt P.A. system.

W-1205 PORTABLE RECORDER..... List Price \$149.50
Complete as described above, with tubes. Size of case 10 $\frac{1}{2}$ " high, 16" wide by 20" long. Net weight 40 lbs.
Shipping weight 50 lbs. Code: RETRO

The W-1206 is similar to the W-1205 except geared to operate at 33 $\frac{1}{3}$ RPM. Equipped with 12" cast aluminum turntable which permits cutting 12" blanks. Recording rate 98 lines per inch or over 12 minutes recording time.

W-1206 PORTABLE RECORDER..... List Price \$159.50
Similar to W-1205 except 33 $\frac{1}{3}$ RPM. Size of case 10 $\frac{1}{2}$ " high, 16" wide by 20" long. Net weight 40 lbs.
Shipping weight 50 lbs. Code: RIGOR



\$149⁵⁰ PORTABLE RECORDER
COMPLETE WITH TUBES

True life-like reproduction of the original at extremely low cost

RECORD-CHANGERS WITH RECORDER

AUTOMATIC RECORD CHANGERS



Webster-Chicago record changers embody many advanced and exclusive principles combined with simplicity in construction and a minimum of working parts. Pick-up arm is counter-balanced to give a two ounce pressure, minimizing record wear.

Records can be played manually and any record rejected during automatic operation by a simple pressing of button at any point during operation.

STANDARD TYPE

W-1270 AUTOMATIC RECORD CHANGER CHASSIS..... List Price \$39.50
Mounting Plate dimensions 14"x14". Mechanism extends 5 $\frac{1}{2}$ " above mounting plate and 5" below.
Shipping weight 25 lbs. Code: PALIS

W-1260 PORTABLE AUTOMATIC CHANGER. List Price \$67.00
Contains the W-1270 chassis mounted in portable carrying case, complete with volume control, A.C. switch, 6" power cord and 6" pick-up shielded connecting cable.
Code: PACKE

DELUXE TYPE

W-1290 DELUXE RECORD CHANGER CHASSIS..... List Price \$60.00
Mounting Plate dimensions 13 $\frac{1}{2}$ "x17 $\frac{1}{2}$ ". Mechanism extends 5 $\frac{3}{4}$ " above plate and 4 $\frac{3}{4}$ " below.
Shipping weight 30 lbs. Code: PERRY

W-1280 PORTABLE AUTOMATIC RECORD CHANGER..... List Price \$87.50
Contains the W-1290 chassis mounted in portable carrying case, complete with 6 foot power cord and shielded pick-up connecting cord.
Code: PLAIT



W-1275



W-1295

In addition to automatic play-back of commercial records these units afford manual operation for recording up to 10" blanks at 78 RPM. Also manual play-back of such recordings plus any standard commercial records.

STANDARD TYPE

W-1275 AUTOMATIC RECORD CHANGER CHASSIS AND RECORDER..... List Price \$60.00
Chassis only, less power cord, controls and connecting cable.
Shipping Wt. 30 lbs. Code: RELAX

W-1265 PORTABLE AUTOMATIC CHANGER AND RECORDER..... List Price \$115.00
Same as W-1275 except mounted in neutral grey portable carrying case. Complete with VI meter, matching transformer and connecting cables. Size 11" high x 16 $\frac{1}{2}$ " x 16 $\frac{1}{2}$ ".
Shipping Wt. 40 lbs. Code: REPEL

DELUXE TYPE

W-1295 DELUXE RECORD CHANGER AND RECORDER..... List Price \$80.00
Chassis only less power cord, controls and connecting cable.
Shipping Wt. 35 lbs. Code: REFIT

W-1285 PORTABLE DELUXE CHANGER AND RECORDER..... List Price \$135.00
Same as W-1295 except mounted in portable carrying case. Complete with VI meter, matching transformer and connecting cable. Size 12" high x 14 $\frac{1}{2}$ " x 17 $\frac{1}{2}$ ".
Shipping Wt. 45 lbs. Code: REPAY

"The Sound of Tomorrow" . . . WEBSTER-CHICAGO



NEW MICROPHONES AND ACCESSORIES

"UNI-VEL" UNIDIRECTIONAL MICROPHONES

The W-1248 is an entirely new development in microphones, the result of intensive research by Webster-Chicago microphone engineers. Incorporates true cardioid unidirectional characteristics and is the first cardioid type high level, super-fidelity, wide-angle pick-up microphone offered at a price that is practical for general P.A. installations. Full frequency response of 40 to 9,000 cycles; exceptional sensitivity; cardioid pattern allows placement of microphones 30% closer to speakers, and overcomes sound pick-up problems encountered in practically every type of indoor location. Modern streamlined case, attractively finished in black and polished chrome. Tilts 30 degrees. Complete with "built-in" locking type connector and 25 feet of shielded rubber covered cable. Case dimensions 2 1/2" x 7".

W-1248 "UNI-VEL" HIGH IMPEDANCE MICROPHONE..... List Price \$49.50
Output level 59 d.b. Net wt. 5 lbs.
Shipping weight 8 lbs. Code: MITER

W-1248-L "UNI-VEL" LOW IMPEDANCE MICROPHONE..... List Price \$49.50
For 200/250 ohm inputs. Output level -63 d.b. Ship. wt. 8 lbs. Code: MISTY



UNI-VEL — Microphone
DUO-VEL — Microphone

"DUO-VEL" VELOCITY MICROPHONES

The W-1247 is a new velocity (ribbon) microphone developed in Webster-Chicago's laboratories for those special applications where bi-directional characteristics and high quality performance is required. Free from cavity resonance, rugged in construction, and with high output level; highly recommended for stage pick-ups and installations where a microphone is operated close to reproducers. Uses corrugated dural ribbon and special Alnico magnet structure. Frequency response 40-9,000 cycles. Housed in same attractive case as the W-1248. Complete with 25 feet of shielded rubber covered cable.

W-1247 "DUO-VEL" HIGH IMPEDANCE MICROPHONE..... List Price \$39.50
Output level -56 d.b. Net wt. 4 lbs.
Shipping wt. 7 lbs. Code: MIRTH

W-1247-L "DUO-VEL" LOW IMPEDANCE MICROPHONE..... List Price \$39.50
For 200, 250 ohm inputs. Output level -62 d.b. Shipping wt. 7 lbs. Code: MIGHT

"SUPER-DYNE" DYNAMIC MICROPHONES



W-1246 is a new dynamic microphone designed to give a high level output with high fidelity response of 40-10,000 cycles. Utilizes a new design of Alnico magnet to give highest flux density per unit gap, dural diaphragm, and edge wound flat wire voice coil. The W-1246 is recommended as the ideal outdoor microphone wherever the highest quality of reproduction combined with rugged construction is required. In addition to its excellent frequency response, this microphone has wide range pick-up and freedom from atmospheric or climatic effects, making it most suitable for general all-around public address work. Assembly is in a compact and neat streamlined case, finished in gun-metal with polished chrome bars. Head adjustable through a 90° angle. Detachable cord assembly with locking type plug and 25 feet shielded rubber covered cable.

W-1246 "SUPER-DYNE" HIGH IMPEDANCE DYNAMIC MICROPHONE..... List Price \$29.50
Output level -55 d.b. Case dimension 2" x 3 1/2".
Shipping wt. 3 lbs. Code: MONTE

W-1246-L "SUPER-DYNE" LOW IMPEDANCE DYNAMIC MICROPHONE..... List Price \$29.50
For 200, 250 ohm inputs. Output level -60 d.b.
Shipping wt. 3 lbs. Code: MULET

CRYSTAL MICROPHONES



The popular W-1236 crystal microphone includes such modern features as internal screen-protected cartridge, moisture-sealed crystal, curvilinear diaphragm for high efficiency, high level output, high capacity torsion drive crystal, combination semi-directional and non-directional mounting, wide range reproduction, 50-9,000 cycles, and shock-proof cartridge suspension. Case finished in polished chrome, complete with 25 feet of single conductor shielded cable, detachable with locking type connector.

W-1236 CRYSTAL MICROPHONE..... List price \$23.50
Complete as described above.
Shipping weight 3 lbs. Code: MACAD

W-1236-H CRYSTAL MICROPHONE..... List Price \$24.50
Same as W-1236 except complete with handle.
Code: MOROC

W-1236-HS CRYSTAL MICROPHONE..... List Price \$27.00
Same as W-1236 except complete with handle and "on-off" switch.
Code: MOTLE

FLOOR STANDS



Two models of full length floor stands are available. Both types have full size heavy bases and patented new type clutch. They are finished in a durable polished chrome that will withstand hard usage over a long period of time.

W-1121-A FLOOR STAND. List Price \$14.00
A 4 section stand for portable use. Adjustable from 48" to 60". Also can be used as a banquet stand by eliminating 2 sections and is then adjustable from 17" to 30".
Shipping Wt. 17 lbs. Code: STRIP

W-1122 FLOOR STAND... List Price \$14.00
A 2 piece floor stand, adjustable from 35" to 60".
Shipping Wt. 19 lbs. Code: STOUP

DYNAMIC MICROPHONES



The W-1245, with its dural diaphragm incorporating a new edge wound flat wire voice coil assembly and improved Alnico magnet assembly, is now available at a surprisingly low list price. Ideal for portable and mobile systems and wherever hard usage demands a rugged microphone. Frequency response 50-8,000 cycles. Assembled in polished chrome case with detachable cord and locking type plug, complete with 25 feet of shielded R.C. cable.

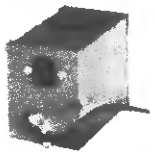
W-1245 HIGH IMPEDANCE DYNAMIC. List Price \$22.50
Output level -60 d.b. Shipping wt. 6 lbs.
Code: MALAR

W-1245-L LOW IMPEDANCE DYNAMIC List Price \$22.50
For 200, 250 ohm inputs. Output level -65 d.b.
Code: MARMO

W-1245-H DYNAMIC MICROPHONE..... List Price \$23.50
Same as W-1245 except with handle.
Code: MUSIC

W-1245-HS DYNAMIC MICROPHONE... List Price \$26.00
Same as W-1245 except with handle and "on-off" switch.
Code: MATAD

MICROPHONE TRANSFORMER



Impedance matching transformers for installations requiring one or more microphones operating at greater distance from amplifier than 50 feet. Eliminates hum and stray r.f. pick-up. Quickly adapts high impedance inputs to low impedance microphones. Five-foot cord and lock type plug suitable for any Webster-Chicago amplifier and microphone. W-201 recommended for high fidelity response.

W-200 MICROPHONE TRANSFORMER List Price \$15.00
Shipping weight 3 lbs. Code: THORI

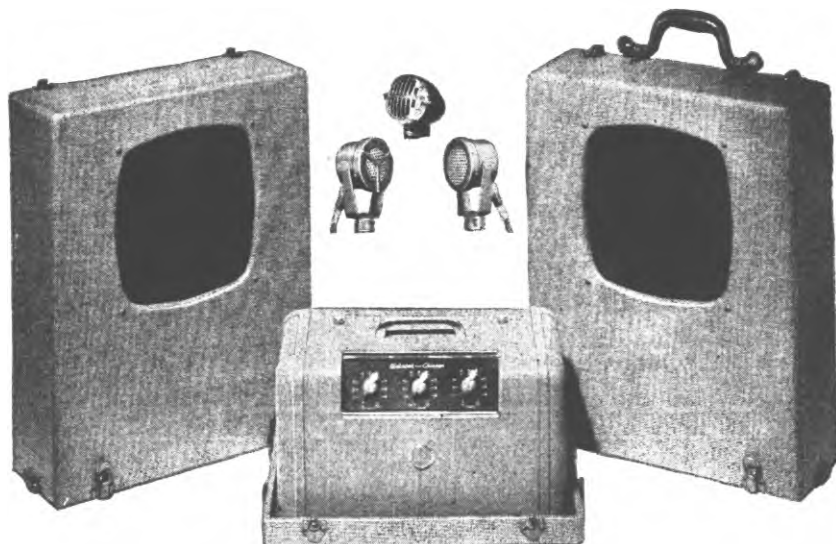
W-201 MICROPHONE TRANSFORMER List Price \$10.00
Shipping weight 2 lbs. Code: TIME

WEBSTER - CHICAGO . . . "The Sound of Tomorrow"

ECONOMY PORTABLE SYSTEMS



ALL EQUIPPED WITH TWO 12" SPEAKERS



ECONOMY—PERFORMANCE—PORTABILITY

This new economy portable line of sound equipment is Webster-Chicago's answer to the need for a quality portable sound system priced within the budget of the smaller band, traveling show, carnival, lecturer, etc. Available in 3 power sizes to fit your particular need, 10 watt, 14 watt, and 30 watt. Each system completely contained in one carrying case easily carried by one person. For the first time Webster-Chicago equipment is available to the smaller bands, shows, etc., on an economy basis. For complete satisfaction insist upon Webster-Chicago when you purchase your next sound system. The complete portability of this new line makes these systems ideal for traveling entertainers. Entire system consisting of amplifier, two speakers, microphone and necessary connecting cable is housed in single carrying case.

DESCRIPTION OF EQUIPMENT

Each system is complete with two 12" P.M. dynamic speakers equipped with 25 feet of cable and plug; crystal or dynamic microphone (as selected) complete with 25 feet shielded cable and plug. 10 watt, 14 watt, or 30 watt amplifier (as selected) all housed in single portable case finished in Black and Grey airplane cloth. 30 watt system equipped with two heavy duty 12" P.M. dynamic speakers.

The amplifiers furnished with these "Economy" systems are the standard equipment as listed and described in Webster-Chicago catalog No. 140. This catalog contains a more complete range of sound systems, starting at 10 watts and up to 60 watts of power. Also a complete listing of accessories, including reproducers, portable recorders, record changers, microphones, microphone stands and cable.

LIST PRICES	
PL-811 PORTABLE SYSTEM	\$93.00
1 — W810 amplifier (less tubes)	
2 — PM12GS 12" speakers	
2 — 25' speaker cables and plugs	
1 — W30 crystal microphone with 25' cable	
1 — W5011 three-piece carrying case	
PX-811 PORTABLE SYSTEM	\$104.00
Same as PL-811 except with W-1236 crystal microphone in place of W-30 crystal microphone	
PD-811 PORTABLE SYSTEM	\$103.00
Same as PL-811 except with W-1245 dynamic microphone in place of W-30 crystal microphones	
W-810 AMPLIFIER ONLY (less tubes)	\$39.50
KIT OF MATCHED TUBES	\$6.53
PL-815 PORTABLE SYSTEM	\$108.00
1 — W814 amplifier (less tubes)	
2 — PM12GS 12" speakers	
2 — 25' speaker cables and plugs	
1 — W-30 crystal microphone with 25' cable	
1 — W5011 three-piece carrying case	
PX-815 PORTABLE SYSTEM	\$119.50
Same as PL-815 except with W-1236 crystal microphone in place of W-30 crystal microphone	
PD-815 PORTABLE SYSTEM	\$118.50
Same as PL-815 except with W-1245 dynamic microphone in place of W-30 crystal microphone	
W-814 AMPLIFIER ONLY (less tubes)	\$54.00
KIT OF MATCHED TUBES	\$11.25
PL-831 PORTABLE SYSTEM	\$142.00
1 — W-830 amplifier (less tubes)	
2 — W-3912 PM 12" H.D. speakers	
2 — 25' speaker cables and plugs	
1 — W-30 crystal microphone with 25' cable	
1 — W-5011 three-piece carrying case	
PX-831 PORTABLE SYSTEM	\$153.00
Same as PL-831 except with W-1236 crystal microphone in place of W-30 crystal microphone	
PD-831 PORTABLE SYSTEM	\$152.00
Same as PL-831 except with W-1245 dynamic microphone in place of W-30 crystal microphone	
W-830 AMPLIFIER ONLY (less tubes)	\$79.50
KIT OF MATCHED TUBES	\$12.75

"The Sound of Tomorrow" . . . WEBSTER - CHICAGO



10 AND 20 WATT SYSTEMS



W-2908

PX-810 Portable System

PX-920

LIST PRICES

W-810	AMPLIFIER only (less tubes)	\$ 39.50
	Shipping Wt. 18 lbs. Code: AUTHE	
PX-810	PORTABLE SYSTEM	90.50
	1 W-810 Amplifier (less tubes)	
	1 W-3908 PM 8" Speaker	
	1 25-ft. Speaker Cable and Plug	
	1 W-1236-H Crystal Microphone	
	1 25-ft. Shielded Microphone	
	Cable and Plug	
	1 W-5008 Two piece Carrying	
	Case	
FX-810	FIXED SYSTEM	108.50
	1 W-810 Amplifier (less tubes)	
	2 W-3908 PM 8" Speakers	
	2 W-2908 Baffles	
	1 W-1236 Crystal Microphone	
	1 25-ft. Shielded Microphone	
	Cable and Plug	
	1 W-1122 Extension Floor Stand	
	KIT OF MATCHED TUBES for W-810.	6.50
W-920	AMPLIFIER only	\$ 84.50
	(less tubes)	
	Shipping Weight 35 lbs. Code: AMATE	
PX-920	PORTABLE SYSTEM	218.00
	Shipping Weight 90 lbs. Code: ALTRU	
	1 W-920 Amplifier (less tubes)	
	2 W-3913 PM 12" Speakers	
	2 Speaker Cables & Plugs	
	1 W-1236 Crystal Microphone	
	1 25-ft. Shielded Microphone Cable & Plug	
	1 W-1121-A Portable Floor Stand	
	1 W-5030 Duplex Speaker Carrying Case	
	1 W-5031 Amplifier Carrying Case	
FX-920	FIXED SYSTEM	198.00
	Shipping Weight 85 lbs. Code: ARTIS	
	1 W-920 Amplifier (less tubes)	
	2 W-3913 PM 12" Speakers	
	2 W-2923 Speaker Baffles	
	1 W-1236 Crystal Microphone	
	1 25-ft. Shielded Microphone Cable & Plug	
	W-1122 Extension Floor Stand	
	KIT OF MATCHED TUBES for W-920.	13.25

— This powerful small portable or fixed system, with its bass reflex speaker case is suitable for store window demonstrations, small churches, lodge halls, clubs, carnivals and general ballyhoo. The W-810 Amplifier is also recommended for hard of hearing systems in theatres, and churches, either with its own microphone or as a separate earphone amplifier for attaching to existing system. It is also ideal for small paging systems, or as individual booster amplifiers to a general call or communication system.

— The PX-810 portable system consists of a combination carrying case containing the 10 watt amplifier, hand microphone, speaker, and cable. The amplifier is removable and the back cover replaced on the case to form a complete bass reflex type baffle. The heavy duty 8" permanent magnet speaker is furnished complete with a 25 foot durable speaker cable and polarized plug. Microphone equipment consists of a W-1236-H crystal microphone with 25 foot rubber covered shielded cable and plug.

The FX-810 fixed system includes the 10 watt amplifier and two 8" speakers mounted in sloping front walnut baffles. Crystal microphone is of the professional type chrome plated with 25 feet of shielded microphone cable and snap-lock plug. Microphone is furnished with chrome plated adjustable floor stand having patented friction type clutch.

W-920 AMPLIFIER

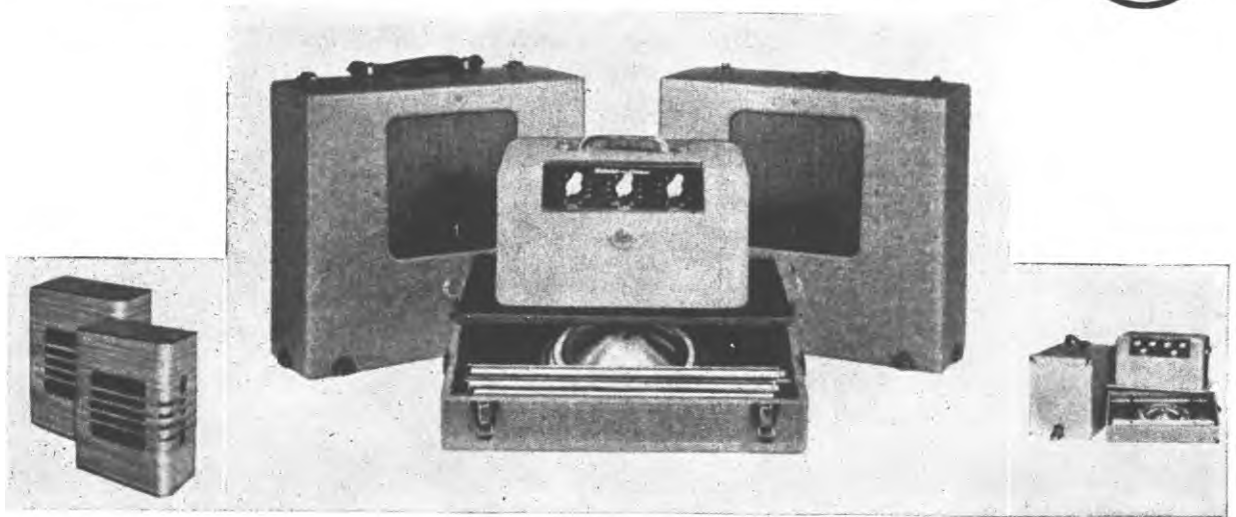
— The W-920 amplifier is offered in a variety of portable and permanent systems. Illuminated "No-Glare" glass panel allows convenient operation regardless of lighting conditions. Electronic mixing of the two high-gain microphones and two low-gain auxiliary circuits. Dual tone compensation allows complete control of bass and treble independently for perfect operation under the most adverse acoustical conditions. Snap-lock input plugs prevent cables from being accidentally disconnected at a critical moment.

Two position remote mixer control makes it possible to independently control two microphones simultaneously from a point anywhere within the audible range of the loud speakers.

Both portable and fixed systems are furnished complete with bass reflex type speaker baffles. The heavy duty speaker baffles and speakers furnished with these systems are capable of handling the full output of the amplifier. In the portable system the rugged and attractive carrying case for the amplifier also houses the microphone and cable, full length floor stand and remote mixer. The speaker carrying case of matched design includes space for the two speaker cables, one 30-ft. and one 50-ft.

WEBSTER - CHICAGO . . . "The Sound of Tomorrow"

14, 30 AND 60 WATT SYSTEMS



W-2923

FX-814 Portable System

FX-830

W-814 AMPLIFIER

The W814 portable systems are complete public address units built basically around a skillfully designed 14 watt amplifier. The complete system is housed in one rugged attractive 3 piece carrying case including two 10" speakers, microphone, full length floor stand, and two speaker cables, one 30 ft. and one 50 ft. long.

Amplifier is conveniently mounted on a removable base which acts as a cover for the microphone stand compartment. Weight is distributed evenly for convenience in carrying. Case finished in attractive airplane cloth which blends with the most modern room finishes.

Fixed systems, complete in every detail, consists of 14 watt amplifier, microphone and floor stand, two 10" permanent magnet speakers with modernistic walnut baffles. Bass reflex type baffles insure higher output at a lower feedback point.

All components used in these systems are matched to insure the highest degree of quality tone reproduction.

W-830 AMPLIFIER

The W-830 amplifier is used as a base for several systems designed for both portable and permanent installation. Indirectly illuminated "No-Glare" glass control panel assures perfect control of equipment without dependence on outside lighting conditions. Electronic mixing circuit allows the use of two high impedance microphones, combining their output within the amplifier to insure perfect blending and full quality.

Such safety features as self-contained fuse, snap-lock input plugs, heavy duty speaker cables and plugs, give these systems the ability to withstand an unusual amount of usage and rough handling. Heavy duty permanent magnet speakers are contained in bass reflex type baffles, resulting in a full rich tone quality.

W-860 AMPLIFIER

The W-860 is a high powered amplifier designed to operate in areas subjected to high prevailing noise levels. The unit, housed in a modern wrinkle finish case, incorporates such features as multi-stage inverse feed-back, voice coil and line impedance outputs, no glare illuminated glass panel, and locking type input plugs.

Electronic mixing circuit allows the use of two high impedance microphones combining their output within the amplifier to insure perfect blending and full quality.

LIST PRICES

W-814 AMPLIFIER only (less tubes)....\$ 54.00

Shipping Weight 20 lbs. Code: ATTEN

PX-814 PORTABLE SYSTEM..... 135.00

Shipping Weight 60 lbs. Code: ATTEX

- 1 W-814 Amplifier (less tubes)
- 2 W-3910 PM 10" Speakers
- 2 Speaker Cables and Plugs
- 1 W-1236 Crystal Microphone
- 1 25-ft. Shielded Microphone Cable & Plug
- 1 W-1121-A Portable Floor Stand
- 1 W-5014 Three piece Carrying Case

FX-814 FIXED SYSTEM..... 149.50

Shipping Weight 51 lbs. Code: AURIS

- 1 W-814 Amplifier (less tubes)
- 2 W-3910 PM 10" Speakers
- 2 W-2923 Baffles
- 1 W-1236 Crystal Microphone
- 1 25-ft. Shielded Microphone Cable & Plug
- 1 W-1122 Extension Floor Stand

W-830 AMPLIFIER only (less tubes) ... \$ 79.50

Shipping Weight 35 lbs. Code: ACOUS

PX-830 PORTABLE SYSTEM..... 213.00

Shipping Weight 93 lbs. Code: ADIEU

- 1 W-830 Amplifier (less tubes)
- 2 W-3913 PM 12" Speakers
- 2 Speaker Cables & Plugs
- 1 W-1236 Crystal Microphone
- 1 25-ft. Shielded Microphone Cable & Plug
- 1 W-1121-A Portable Floor Stand
- 1 W-5030 Duplex Speaker Carrying Case
- 1 W-5031 Amplifier Carrying Case

FX-830 FIXED SYSTEM..... 193.00

Shipping Weight 87 lbs. Code: AGRIN

- 1 W-830 Amplifier (less tubes)
- 2 W-3913 PM 12" Speakers
- 2 W-2923 Baffles
- 1 W-1236 Crystal Microphone
- 1 25-ft. Shielded Microphone Cable & Plug
- 1 W-1122 Extension Floor Stand

W-860 AMPLIFIER only (less tubes) ..\$109.50

Shipping Weight 45 lbs. Code: ABACK

FX-860 FIXED SYSTEM..... 225.00

Shipping Weight 110 lbs. Code: ABBOT

- 1 W-860 (less tubes)
- 4 W-3913 PM 12" Speakers (less baffles)
- 1 W-1236 Shielded Microphone Cable & Plug
- 1 W-1122 Extension Floor Stand

"The Sound of Tomorrow"... WEBSTER - CHICAGO

PAGE SEVEN



MOBILE SYSTEMS

- 6 Volt DC or 117 Volt AC
- "No-Glare" Illuminated Glass Panel
- Noiseless Gear Drive Phono Motor
- Economical Power Requirements
- Tone Compensation



PX-618 System



W-820 Phono-Amplifier and Accessories



W-929 (open)

W-929 PHONO-AMPLIFIER COMBINATION

EQUIPMENT — W-929 mobile system is built around a phono-amplifier combination carefully designed for extra hard usage. Housed in an attractive steel cabinet finished in grey crystalline. A new Webster feature is the streamlined removable hinged cover, protecting the phono mechanism. The "No-Glare" illuminated control panel is indispensable where little or no light is available. New gear drive phonograph motor combines noiseless correct speed operation in all temperatures with the constant speed synchronous type advantages of previous models. Dual tone controls are another new feature. A new innovation in mobile units is the provision for a two position remote mixer operating anywhere within hearing distance of the speakers, or for control at remote microphone locations.

Two high power W-3913 dynamic speaker chassis only, or completely assembled in W-2618 directional baffles, complete with 15 foot cords, are part of the system. Where speakers are to be operated over 50 feet from the amplifier, two W-3913-A speakers (with line transformer) should be used, which will allow the use of long speaker lines of several hundred feet. The systems are complete with 5 foot battery cable with clips and 7 foot AC power cord.

W-820 PHONO-AMPLIFIER COMBINATION

EQUIPMENT — The W-820 is a 20 watt phono-amplifier combination very compact in size and particularly adapted for mobile application. It includes the new noiseless gear drive phonograph motor that will maintain correct speed under all conditions of operation or weather. The "No-Glare" illuminated control panel, contains microphone, phono, and tone controls.

The two W-3912 speakers supplied with the system are heavy duty 12 watt speakers specially designed to be used under the difficult operation required with a 20 watt mobile type of system. Complete with 15 foot cords, they are available with or without the W-2618 metal baffles. Two W-3912-A speakers (with line transformer) are recommended where speaker lines are apt to run over 50 feet each.

A hand type crystal or dynamic microphone with 25 foot shielded cable, complete with "On-Off" switch, is furnished. 5 foot battery cable with clips and 7 foot AC power cord, equipped with polarized plugs included.

18 WATT 6V. DC. — 117 V. A. C. MODEL Less Phono-Assembly

The W-618 is a combination 6V DC and 117V AC amplifier less phono-assembly. Available for car installations and for picnics, rural dances, lectures, etc., where AC supply is either not available or too difficult to obtain. Similar in facilities to the W-820 except for the phonograph, it is supplied both in a portable and fixed system. Tubes used: 1-6J7, 2-6N7, 2-6L6G, 1-6W5G. Current consumption (DC) 13 amps, (AC) 100 watts.

LIST PRICES

W-929 PHONO-AMPLIFIER COMBINATION (less tubes)	\$179.50
Shipping Weight 65 lbs. Code: MALAC	
MX-929 MOBILE SYSTEM	252.00
Shipping Weight 85 lbs. Code: MALIG	
1 W-929 Phono-Amplifier combination (less tubes)	
2 W-3913 PM 12" Speakers (less baffles)	
2 15-ft. Speaker Cables & Plugs	
1 W-1236-HB Crystal Microphone	
1 25-ft. 2 Conductor Shielded Microphone Cable and Plug	
MD-929 MOBILE SYSTEM	251.00
Shipping Weight 87 lbs. Code: MALNU	
Same as MX-929 except with W-1245-HR Dynamic Microphone and 3 Conductor Shielded Cable in place of W-1236-HR Crystal Microphone	
KIT OF MATCHED TUBES for W-929	14.25
W-820 PHONO-AMPLIFIER COMBINATION only (less tubes) \$115.00	
Shipping Weight 35 lbs. Code: MANIF	
MX-820 MOBILE SYSTEM	174.50
Shipping Weight 55 lbs. Code: MANTE	
1 W-820 Phono-Amplifier (less tubes)	
2 W-3912 PM 12" Speakers (less baffles)	
2 15-ft. Speaker Cables & Plugs	
1 W-1236-HS Crystal Microphone	
1 25-ft. Shielded Microphone Cable & Plug	
MD-820 MOBILE SYSTEM	173.50
Shipping Weight 57 lbs. Code: MARQU	
Same as MX-820 except with W-1245-HS Dynamic Microphone in place of W-1236-HS Crystal Microphone	
KIT OF MATCHED TUBES for W-820	10.85
W-618 AMPLIFIER (less tubes)	\$ 75.00
Shipping Weight 20 lbs. Code: AUTUM	
PX-618 PORTABLE SYSTEM	157.50
Shipping Weight 60 lbs. Code: AUTOT	
1 W-618 Amplifier (less tubes)	
2 W-3910 PM 10" Speakers	
2 Speaker Cables & Plugs	
1 W-1236 Crystal Microphone	
1 25-ft. Shielded Microphone Cable & Plug	
1 W-1121-A Portable Floor Stand	
1 W-5014 Three piece Carrying Case	
KIT OF MATCHED TUBES for W-618	10.85
Shipping Weight 2 lbs. Code: THETA	

WEBSTER - CHICAGO . . . "The Sound of Tomorrow"

"MASTER" SYSTEMS

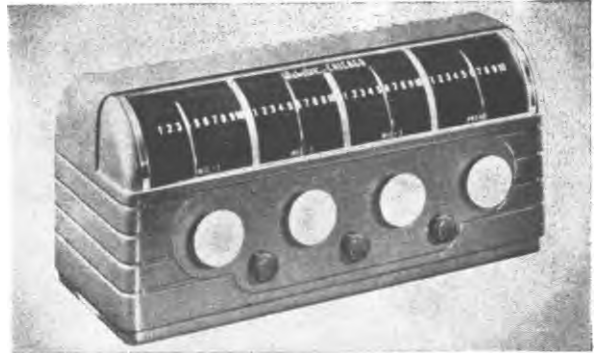
Featuring Separate Mixer and Power Units

EQUIPMENT and APPLICATION

This "Master" series represents a new departure in sound equipment design. The objective of Webster-Chicago engineers was to obtain the ultimate in low hum level, maximum power output, complete control of tone quality, practical visual and manual controls, flexibility of application, plus all-around maximum efficiency and stability. As a result of this engineering effort Webster-Chicago presents a "Master" series of amplifiers that is far ahead of anything heretofore available to the trade. The unique and pleasing appearance of these units forcefully tells the story of the quality and advanced design incorporated in the housings.

Its flexibility is virtually unlimited. One or more 25, 45 or 75 watt power stages can be operated adjacent to or remotely from one or more mixers. Thus one mixer and three power stages of 75 watts each would afford a total power output of 225 watts. This arrangement can be varied as to number of mixers and power stages to obtain practically any required capacity of power or number of microphones. For example, two W-1004 mixers and two W-1025 power stages will mix 6 microphones and two phonos supplying 150 watts of power to the speaker load.

Ideal for handling varied sound jobs from the largest needs such as Fairs, Expositions, Auditoriums and Athletic Fields down to the smaller installations for orchestras, restaurants, churches and clubs. Its outstanding virtue of low hum level makes it particularly adaptable for all installations demanding absolutely quiet operation.



MIXER SPECIFICATIONS	
W-1004	W-1002
GAIN High imped. microphone -76 DB Low imped. 200-250 ohms -70 DB Phono -65 DB.	GAIN High imped. microphone -76 DB. Low imped. 200-250 ohms -70 DB Phono -65 DB.
FREQUENCY RESPONSE ± 1 1/2 DB 50-10,000 Cycles	FREQUENCY RESPONSE ± 1 1/2 DB 50-10,000 Cycles
TUBES (9) 4-6SF5, 2-6SC7, 1-6J5, 1-6L7, 1-6H6	TUBES (5) 2-6SF5, 2-6SC7, 1-6J5
CONTROLS (7) 3 - Microphones 1 - Phono Microphone 1 - Bass with power switch 1 - Treble 1 - Expansion	CONTROLS (5) 2 - Microphone-Phono 1 - Bass 1 - Treble 1 - "on-off" Power Switch
INPUTS (4) 3 - Microphones, 2 megohms or 250 ohms 1 - Phono-Microphone, 20,000 ohms & 1/2 megohm	INPUTS (2) 2 - Microphones, 2 megohms & 250 ohms or 2 - Phono 20,000 ohms
OUTPUT IMPEDANCE 500 ohms	OUTPUT IMPEDANCE 500 ohms



POWER AMPLIFIER SPECIFICATIONS			
	W-1025	W-1045	W-1075
POWER OUTPUT	25 Watts	45 Watts	75 Watts
COVER-AGE Indoors Outdoors	5,000 to 10,000 people 33,000 sq. ft.	10,000 to 25,000 people 60,000 sq. ft.	25,000 to 40,000 people 125,000 sq. ft.
GAIN	-52 DB	-54 DB	-57 DB
FREQUENCY RESPONSE	± 1 1/2 DB 40-10,000 cyc.	± 1 1/2 DB 40-10,000 cyc	± 1 1/2 DB 40-10,000 cyc.
TUBES	1-6N7, 2-6L6G 1-5V4G	2-6N7, 2-6L6G 2-5V4G, 1-6X5	2-6N7, 4-6L6G 2-5V4G, 1-6X5
CONTROLS	1 Master	1 Master	1 Master
INPUTS	1 Mixer .15 Meg 1 Aux. additional power stage	1 Mixer .15 Meg 1 Aux. additional power stage	1 Mixer .15 Meg 1 Aux. additional power stage
OUTPUT IMPEDANCE	4, 8, 250, & 500	4, 8, 250, & 500	2, 4, 8, 250, & 500
POWER CONSUMPTION	125 Watts 117 V 50-60 Cycles	200 Watts 117 V 50-60 Cycles	250 Watts 117 V 50-60 Cycles

LIST PRICES	
W-1002 MASTER MIXER-PREAMPLIFIER (less tubes).....	\$65.00
Similar to W-1004 "Master" mixer except having 2 position instead of 4 position mixer; the extreme left and right scales controlling the bass and treble response. Does not include expansion. Two position mixer for 2 Hi-lo impedance microphone inputs; can operate phono into either input. Shipping Weight 23 lbs. Code: AROSE	
KIT OF MATCHED TUBES for W-1002.....	6.50
W-1004 MASTER MIXER-PREAMPLIFIER (less tubes).....	85.00
For use with one or more Master power amplifiers as listed below. Shipping Wt. 25 lbs. Code: ANISE	
KIT OF MATCHED TUBES for W-1004.....	11.75
W-1025 MASTER POWER AMPLIFIER only (less tubes).....	60.00
A 25 Watt power amplifier and supply for use with W-1004 mixer. Shipping Wt. 35 lbs. Code: ANZAC	
KIT OF MATCHED TUBES for W-1025.....	8.50
W-1045 MASTER POWER AMPLIFIER only (less tubes).....	80.00
Same as W-1025 except delivers 45 watts. Shipping Weight 38 lbs. Code: APACE	
KIT OF MATCHED TUBES for W-1045.....	14.25
W-1075 MASTER POWER AMPLIFIER (less tubes).....	90.00
Same as W-1025 except delivers 75 watts. Shipping Weight 48 lbs. Code: APEAK	
KIT OF MATCHED TUBES for W-1075.....	18.50
W-1000 MASTER POWER SUPPLY (less tubes).....	27.50
For supplying current to W-1004 mixer only Shipping Wt. 17 lbs. Code: ANILE	
W-1001 MASTER "PLUG-IN" MICROPHONE TRANSFORMER.....	11.50
Converts any one of the microphone inputs of the Master mixer to low impedance 200-250 ohms. Shipping Weight 2 lbs. Code: THECA	

"The Sound of Tomorrow"... WEBSTER-CHICAGO



COMMUNICATION DELUXE



2 STATION SYSTEM

The W-102 system comprises a W-101 master and a W-100-S remote station. When the master calls the remote station, the latter can answer without operating any control. Master station "Talk-Listen" switch has

Amplicall

three positions; horizontal position for listening, push down to talk (switch automatically returns to listen position), and raised to a third locking position called the "Silent" position, which eliminates reproduction of any sound from the remote station.

LIST PRICE

W-102 TWO-STATION SYSTEM..... List Price \$44.50

Made up of a W-101 master and W-100-S remote with tubes, less any connecting cable.
Shipping weight 19 lbs. Code: SEVER

MASTER and REMOTE STATIONS SYSTEMS



W-106Q



W-400-S

The W-100 systems are among the most popular types of communicating equipment and fit the needs of the greatest number of installations. Starting with a 6-station model to handle the popular demand for six or less remote stations; there are also twelve and eighteen station models available to take care of the more expanded needs of larger installations.

LIST PRICES

W-106 MASTER STATION..... List Price \$45.00
6-position push-button switch, 6 ft. connector cable and tubes.
Shipping weight 10 lbs. Code: SYNOP

W-112 MASTER STATION..... List Price \$52.50
Similar to W-106 except with 12 selector buttons. Code: SYNTA

W-118 MASTER STATION..... List Price \$60.00
Similar to W-106 except with 18 selector buttons. Code: SYPEN
For carphone models add letter "Q" — additional cost \$6.50 list.

W-400-S REMOTE STATION..... List Price \$13.50
Complete with originating switch and volume control.
Shipping weight 7 lbs. Code: SYRUP

SYSTEMS CONSISTING OF ALL MASTER STATIONS

W-200 "SERIES" — 2 Models, for 12 and 24 Stations

THE new W-200 series systems offer many new and desirable features such as — silent humless stations when not in use; both incoming and outgoing volume controls; multiple private conversations; AC-DC application; individual locking finger-tip push button selectors; three-position talk-listen switch including new combined dictating and "Q" operation position; new balanced lines; new efficiency in tubes and modernistic streamlined walnut wood two-tone case.

Webster-Chicago also manufactures other communication systems including the W-300 series of higher powered paging systems (10 and 25 watts) with return speech and a deluxe W-400 series combining multiple master stations and remote stations on the same system. Write for complete catalog No. 240 giving full details including high powered industrial paging systems (200 watts and over) with both group and selective paging.

LIST PRICES

W-212 MASTER STATION..... List Price \$52.50
12-position push-button switch, 6' connector cable and tubes.
Shipping weight 10 lbs. Code: SENAR

W-224 MASTER STATION..... List Price \$65.00
24-position push-button switch, 6' connector cable and tubes.
Shipping weight 11 lbs. Code: SERAI
For "Q" models add \$5.00 list.

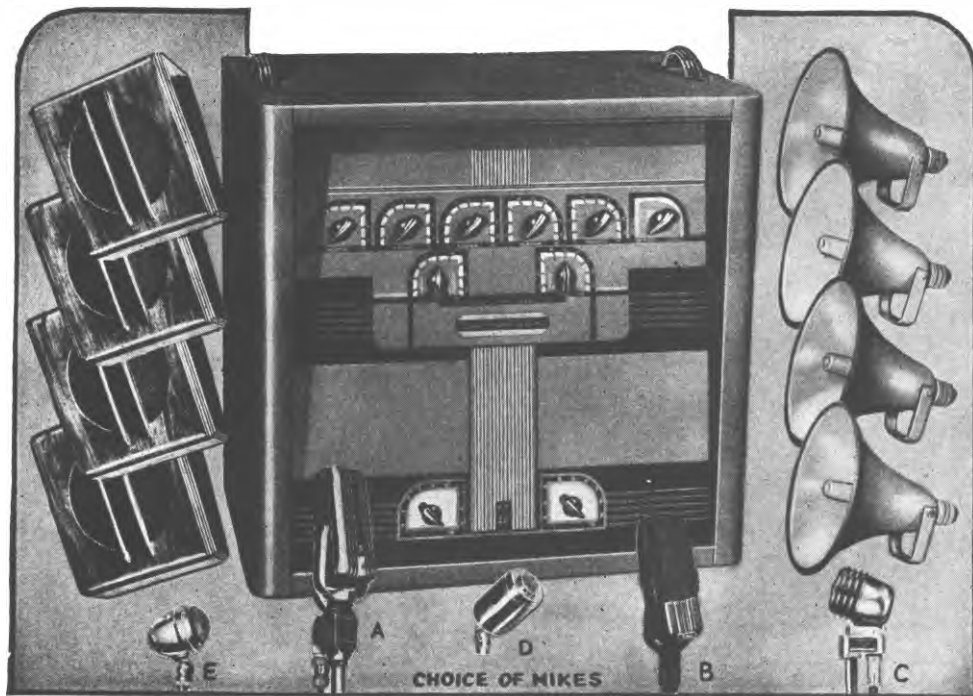
JB-109 JUNCTION BOX..... List Price \$ 2.75
For use with W-212 and W-106 master.
Shipping weight 1 lb. Code: JALAP

JB-110 JUNCTION BOX..... List Price \$ 4.25
For use with W-224 and W-112 master.
Shipping weight 2 lbs. Code: JODEL

WEBSTER - CHICAGO . . . "The Sound of Tomorrow"

Bogen EX70 De-Luxe Systems

MODELS WITH LOW AND HIGH IMPEDANCE INPUTS



FEATURES

- ★ 70 Watts
- ★ Less than 4% distortion
- ★ Straight Line Expansion
- ★ Instantaneous Compressor
- ★ 2-Complete 35 Watt Pwr. Ampl. Channels
- ★ Separate Pwr. Supply for each Pwr. Ampl. Channel
- ★ Remote Vol. Control
- ★ 5 Input Channels

THE Bogen EX70 amplifier embodies not only the important standard requisites found in modern engineered sound but in addition contains features that are proven and tested new developments, all of which are designed to give the ultimate in sound performance. The EX70 is the finest high powered amplifier on the market. Used by leading Colleges, broadcast stations, amusement parks, Government institutions and other discriminating buyers.

The EX70 has an output of 70 watts, at less than 4% distortion. This is accomplished by using two separate 35 watt power amplifiers, each with its own power supply and incorporating in each unit fixed bias and inverse feedback and each with its own master gain control. When using only 35 watt power—one amplifier may be used as emergency unit.

Each amplifier is protected by its own fuse.

Tapped outputs of 2-4-8-250-500 ohms are available at marked terminal boards for speaker connections.

An extremely important feature of the EX70 is the Bogen Triple Range Electronic Tone Corrector. Exceeding all previous standards of performance this new circuit offers complete control of three tone ranges—Bass, Treble and the Middle Register. A unique dual control system permits the operator to create any tone range desired regardless of the acoustic condition of the installation. The Electronic Tone Corrector differs completely from ordinary Bass or Treble controls or equalizer and has none of the objectionable features of compensators or tone controls, such as power loss or distortion.

ANOTHER EXCLUSIVE FEATURE - STRAIGHT LINE EXPANSION

The New Bogen method of expansion created for and incorporated in the EX70 is unparalleled in its life-like performance. Bogen expansion gives you the full crescendo of a mighty organ—the rich overtones of a symphony and combines these into the true realism of the sound of tomorrow.

No critical adjustment—No time lag—No distortion.

COMPRESSOR

The compressor function incorporated in this EX70 eliminates the necessity for continually "riding gain". This compressor works so smoothly that an individual may begin speaking four feet away from microphone and then suddenly speak directly into the microphone with no difference in output volume.

Only Bogen offers you a compressor whose operation is swift enough to compensate for these rapid changes in input level.

The EX70 has provision for plugging in a Bogen multiple remote volume control, wired or wireless type, so that any two channels may be controlled at distances up to 2000 feet or more.

Creative styling is indicated in the recessed sloping panel with four color tones that are illuminated to further effect ease of operation.

The four high impedance microphone inputs and one high impedance phono input may be mixed simultaneously.

A low impedance Model EL70 is available for installations where it is necessary to run very long microphone lines.

EX70 amplifiers are available in indoor and outdoor systems, the components of which have been carefully selected to do justice to these exceptional amplifiers and to assure the purchaser of obtaining maximum results and best tonal reproduction.

BOGEN DE LUXE MODEL EX70 AMPLIFIER \$211.00
—Complete with tubes. Price

LOW IMPEDANCE AMPLIFIER

MODEL EL70 AMPLIFIER—Same as above Model EX70 but with first micro-input channel equipped for impedance. Uses special high fidelity input transformer mounted right on chassis, humless, tapped at 50-200-500 ohms.

Complete with tubes. Price

\$233.50

NOTE: If additional low impedance inputs are desired, add \$22.50 for each input specified.

BOGEN DE LUXE SYSTEMS

MODEL EX70F BASIC SYSTEM—Complete with EX70 amplifier with tubes—Four Jensen PM12B speakers, choice of 1—(a) Amperite BH velocity microphone, (b) BOGEN de luxe velocity model VR-HF, (c) Amperite BAH dynamic, (d) American D8T dynamic, (e) Astatic T3 crystal. Each with 25' microphone cable and plugs. Complete system. Price

\$337.25

FOR INDOOR INSTALLATIONS

EX70B SYSTEM—Complete system same as above, but with 4 Jensen PM12B speakers mounted in de luxe walnut baffles Model W12. Price

\$379.50

FOR OUTDOOR INSTALLATIONS

EX70T SYSTEM—Complete with EX70 amplifier and tubes—four 4½' University trumpets and 25 watt units, choice of 1—(a) Amperite BH velocity microphone, (b) BOGEN de luxe velocity model VR-HF, (c) Amperite BAH dynamic, (d) American D8T dynamic, (e) Astatic T3 crystal. Each with 25' microphone cable and plugs. Complete system. Price

\$493.25

EX70 AMPLIFIER SPECIFICATIONS

OUTPUT: 70 watts—2 35 watt pwr. ampls. combined—less than 4% distortion.

OUTPUT IMPEDANCES: Each pwr. ampl. tapped—2-4-8-250-500 ohms. May be paralleled to deliver 70 watts.

GAIN: Microphone—124.5 db., Phono 95 db.

INPUTS: 5—4 microphone each 500,000 ohms. 1—phone 500,000 ohms. (In Model EL70 low impedance channel is tapped at 50-200-500 ohms.)

FREQUENCY RESPONSE: 30—12,000 cycles.

PROVISION FOR REMOTE CONTROL: Built in.

TUBES: 6-6SF5, 1-6SJ7, 1-6L7, 1-6H6, 1-6SC7, 2-6C5, 2-6F6, 4-6L6G, 2-5W4, 2-5X4G.

CURRENT DRAIN: 290 watts, 117 A.C., 50-60 cycles.

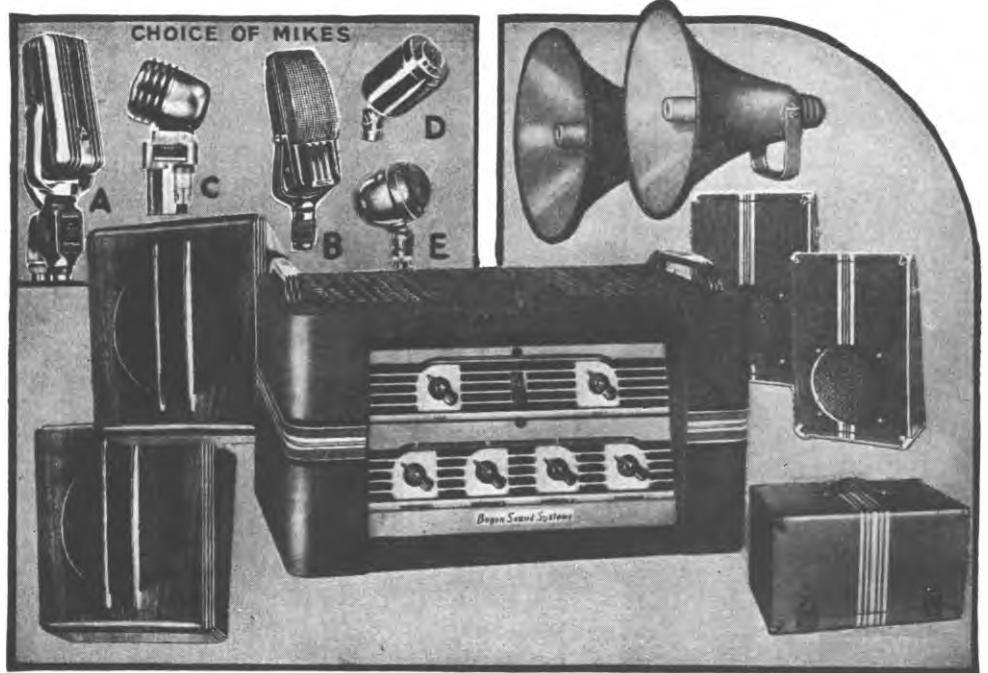
DIMENSIONS AND NET WEIGHT: 19¼" long x 19" high x 12½" deep. (Weight 85 lbs.)

BOGEN EX35 De Luxe "Streamliner" Systems

MODELS WITH LOW AND HIGH IMPEDANCE INPUTS

35
Watts

- ★ Exclusive New Triple Range Electronic Tone Corrector
- ★ Controls Bass, Treble and Intermediate Tone Ranges
- ★ Four Input Channels
- ★ Three Microphones and Phono
- ★ Remote Control Circuits built in for all inputs
- ★ Illuminated Sloping Control Panels
- ★ Push pull 6L6 Output
- ★ Inverse Feedback and fixed bias
- ★ Weatherproof Outdoor Trumpet Systems



COMBINING every desirable feature of advanced sound engineering with new and exclusive Bogen developments, the EX35 "Streamliners" invite comparison with any equipment in their power range. Chief among the exclusive features of the new "Streamliners" is the **BOGEN TRIPLE RANGE ELECTRONIC TONE CORRECTOR**. Exceeding all previous standards of performance this new circuit offers complete control of three tone ranges—Bass, Treble, and the middle register. Three separate tubes, each one acting as an electronic audio channel, control and amplify the overall tone range. A unique dual control system permits the operator to create any tone range desired regardless of the acoustics of the installation. The Electronic Tone Corrector differs completely from ordinary Bass or Treble controls or equalizers, and it has none of the objectionable features of compensators or tone controls such as power loss or distortion. Other de luxe features of the new EX35 "Streamliners" are four input channels for three microphones and phono—Electronic Mixing between all input channels—full range individual gain controls for all inputs and a low impedance model for installations where long microphone cables are required. The model EL35 low impedance amplifier provides one low impedance input channel. The other two microphone inputs and phono remain high impedance as in the model EX35 but if desired, additional low impedance inputs can be obtained built-in at an additional cost. A remote control circuit is built-in on all "Streamliner" models permitting mixing and fading with Bogen wired or wireless remote controls, of two microphones or one microphone and phono. Sloping control panels, illuminated, insure greater visibility and ease of operation. For further convenience variable tapped outputs are available at a terminal strip and two speaker sockets—the variable taps permitting correct matching at both points. These and many other quality features contribute greatly toward making the new Bogen EX35 "Streamliner" amplifiers second to none.

BOGEN DE LUXE MODEL EX35 "STREAMLINER"—Amplifier, complete with tubes. Price **\$124.00**

LOW IMPEDANCE AMPLIFIER

DE LUXE MODEL EL35 "STREAMLINER"— Amplifier, with first microphone input channel equipped for low impedance operation—tapped at 50, 200, and 500 ohms. Specify tap setting desired when ordering. Model EL35 "Streamliner" **\$146.50** amplifier, complete with tubes. Price

NOTE: If additional low impedance microphone channels are desired, specify when ordering and add \$22.50 per channel to above price.

BOGEN EX35 "STREAMLINER" SOUND SYSTEMS

MODEL EX35F—Complete basic system includes: 1—EX35 amplifier, 1—Kit of matched tubes, 2—Jensen PM12B heavy duty 12" dynamic speakers each with 25' heavy rubber covered speaker cable and plugs and, choice of 1—(a) Amperite BH velocity microphone, (b) BOGEN de luxe velocity model VR-HF, (c) Amperite BAH dynamic, (d) American D8T dynamic, (e) Astatic T3 crystal. Each with 25' cable and plugs. Price **\$202.50**

FOR INDOOR INSTALLATIONS

MODEL EX35B—"STREAMLINER"—Complete system as above but with 2—W12 de luxe walnut baffles with reinforcing inner baffles. Price **\$225.00**

FOR PORTABLE USE

MODEL EX35P—"STREAMLINER"—Complete system as above but with 1—Heavy duty No. 134X reinforced dual speaker case and one No. 133X de luxe amplifier case. Price **\$233.00**

FOR OUTDOOR INSTALLATIONS

MODEL EX35T—"STREAMLINER"—Complete system includes: 1—Model EX35 amplifier, 1—Kit of matched tubes, 2—Bogen-University 4½" reflexed non-resonant weatherproof trumpets and two Bogen-University 25-watt PM dynamic trumpet units (not dynamic cone speakers), choice of 1—(a) Amperite BH velocity microphone, (b) BOGEN de luxe velocity model VR-HF, (c) Amperite BAH dynamic, (d) American D8T dynamic, (e) Astatic T3 crystal. Each with 25' cable and plugs. Price **\$277.00**

MODEL SRC50—SR Remote Control, for use with any of above systems or amplifier. Complete with Models RC50 50' cable and plugs. Price **\$9.25**

MODEL EX35 "STREAMLINER" SPECIFICATIONS

POWER OUTPUT: 35 watts undistorted (less than 5%)—peak power—50 watts.

INPUT CIRCUITS: Four input channels—three Microphone inputs, 1—Phono Input. All circuits may be mixed simultaneously.

INPUT IMPEDANCES: Microphone channels—High impedance 500,000 ohms. (Low impedance channels available in Model EL35 provides taps of 50, 200, 500 ohms). Phono input—high impedance—500,000 ohms.

OUTPUT CIRCUITS: Tapped terminal strip and two plug-in speaker sockets.

OUTPUT IMPEDANCES: 2, 4, 9, 250 and 500 ohms available at both terminal strip and sockets.

GAIN: Microphone Inputs, 130 db. Phono Inputs, 90 db.

FREQUENCY RESPONSE: 30 to 14,000 cycles + or - 1 db. Tone corrector range—bass control—15 db. to + 13 db. at 30 cycles. Treble control—15 db. to + 12 db. at 10,000 cycles.

TONE CONTROL: Triple Range Electronic Tone Corrector; Intermediate Range, fixed, 1—Bass control, 1—Treble control.

CONTROL PANEL: Illuminated, mounting three microphone controls, one phono control, 2 electronic tone corrector controls and master AC power switch.

REMOTE CONTROL PROVISION: Built-in—provides complete mixing and fading of any two of the 4 available inputs from remote point.

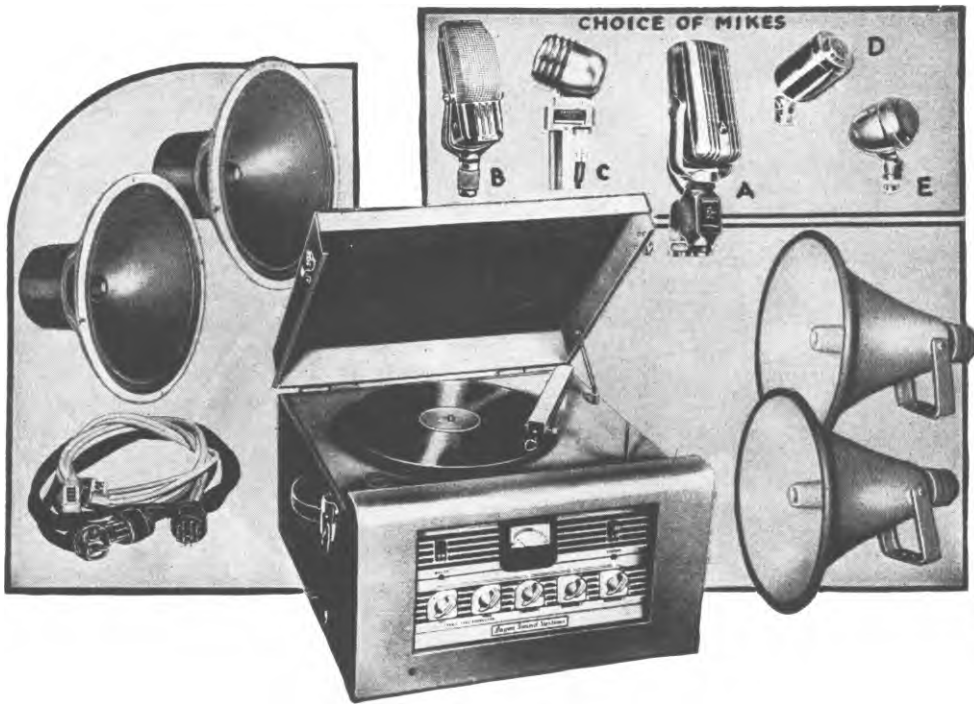
TUBES: 3—6SF5, 1—6C8G, 2—6F8G, 1—6F6G, 2—6L6G, 1—5X4G, 1—5Y4G.

POWER CONSUMPTION: 250 watts, 117 volts, 50-60 cycles A.C.

DIMENSIONS: 16½" x 8½" x 10¼".

BOGEN EX632 De-Luxe MOBILE SYSTEMS

UNIVERSAL FOR 6 VOLTS DC AND 115 VOLTS AC OPERATION



FEATURES

- ★ 32 Watts
- ★ No Outside Power Packs
- ★ Electronic Hydrometer
- ★ Electronic Tone Corrector
- ★ 3 Channel Input
- ★ Automatic Change-over from AC or DC
- ★ Standby Switch - for Battery Economy
- ★ Provision for Remote Mixing

MODEL EX632 UNIVERSAL MOBILE SYSTEM is recommended wherever the finest in sound is required.

- * Makes passenger car easily convertible for sound work.
- * Makes ideal portable unit for truck use.
- * Will amply cover all average requirements for indoor and outdoor use.

NO OUTSIDE POWER PACKS REQUIRED

The EX632 is completely self contained in one compact unit including amplifier, and phono assembly with its own hinged cover. A six volt D. C. and 115 volt A. C. power supply is built in. Changeover is automatic.

THREE INPUT CHANNELS

The EX632 allows mixing of two microphones and phono at the same time.

TRIPLE RANGE ELECTRONIC TONE CORRECTOR

An extremely important feature of the EX632 is the Bogen Triple Range Electronic Tone Corrector. Exceeding all previous standards of performance this new circuit offers complete control of three tone ranges, Bass, Treble and the Middle register. A unique dual control system permits the operator to create any tone range desired regardless of the acoustic condition of the installation. The Electronic Tone Corrector differs completely from ordinary Bass or Treble controls or equalizer, and it has none of the objectionable features of compensators or tone controls such as power loss or distortion.

ELECTRONIC HYDROMETER CONSTANT CHECK ON BATTERY

An exclusive Bogen feature is the new Electronic Hydrometer which is a special meter mounted on the control panel. This meter gives an accurate check of the condition of the battery at all times under load.

STANDBY SWITCH

A switch located on the control panel cuts the B power but allows the tubes to remain heated, ready for instant return to operation. **REMOTE STANDBY SWITCH** is incorporated in special microphone handle—performs same function except at any distance away from the amplifier. This standby switch on your Bogen amplifier means reducing battery consumption.

DASHBOARD OR EXTERNAL REMOTE CONTROL

A very desirable feature on the EX632 is the provision for connecting the Bogen remote control unit which may be mounted on the dash for finger tip operation or used at distances up to 2000 feet or more for controlling volume of any two channels. Remote control may be transferred to any two of the three available input channels quickly and easily.

PHONO MOTOR

A constant speed motor insures smooth running operation, eliminating wows or waver on either 6 volt D. C. or 115 volt A. C.

An Astatic crystal pickup with a new type shock-proof arm is mounted on the phono assembly.

MODEL EX632—De Luxe Mobile Ampl. complete \$172.50
with phono assem. and tubes. Price

DE LUXE UNIVERSAL SOUND SYSTEMS

MODEL EX632F MOBILE DE LUXE SYSTEM—Complete with Model EX632 Universal mobile amplifier and tubes. Two heavy duty 12" Jensen PM dynamic speakers, each with 15' of cable and plugs and, choice of 1—(a) Amperite BH velocity, (b) **BOGEN** de luxe velocity Model VR-HF, (c) Amperite BAH dynamic, (d) American D&T dynamic, (e) Astatic T3 crystal microphone. Each with 25' microphone cable and plugs.

MODEL EX632F—Complete. Price \$238.50

OUTDOOR INSTALLATIONS

MODEL EX632T DE LUXE MOBILE SYSTEM — Complete with EX632 amplifier and tubes. Two high power University 3½" trumpets, each with 25 watt unit, choice of 1—(a) Amperite BH velocity, (b) **BOGEN** de luxe velocity Model VR-HF, (c) Amperite BAH dynamic, (d) American D&T dynamic, (e) Astatic T3 crystal microphone. Each with 25' microphone cable and plugs.

MODEL EX632T complete. Price \$299.50

MODEL SRC50—SR Remote Control, for use with any system or amplifier described above. Complete with Model RC50. 50' cable and plugs. Price

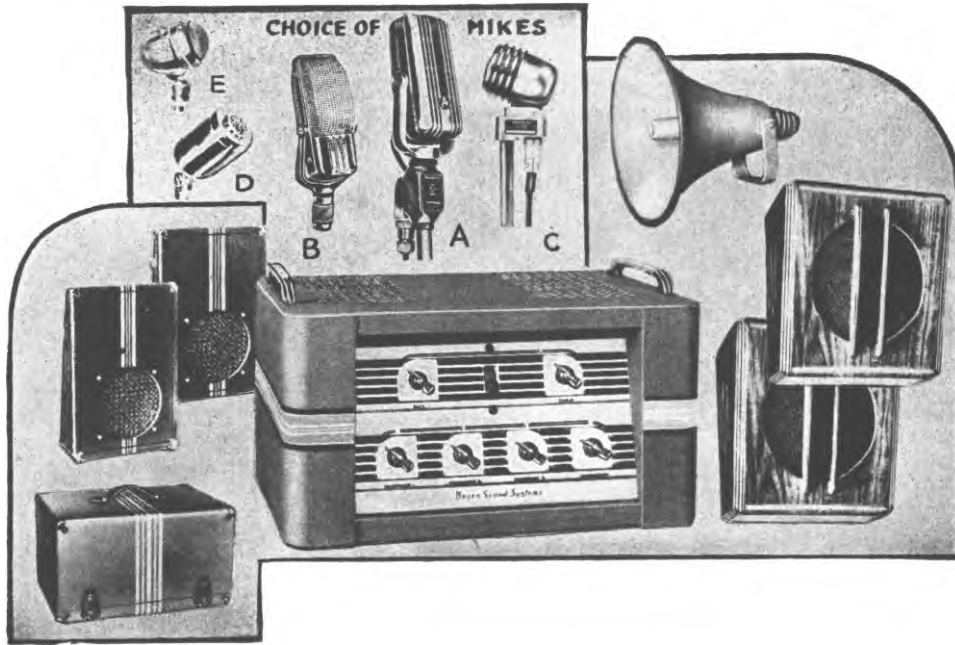
MODEL AHG SPECIAL MICROPHONE HANDLE — with built-in remote control standby switch and complete with 25' remote control cable and plugs. List Price

EX632 AMPLIFIER SPECIFICATIONS

OUTPUT: 32 watts.
 OUTPUT IMPEDANCE: 2-4-8-250-500 ohms.
 GAIN: 120 db. on microphone, 81 db. on phono.
 INPUT: 3—2 microphone at 500,000 ohms, 1—phono 500,000 ohms.
 FREQUENCY RESPONSE: ± 30—12000 cycles.
 PROVISION FOR REMOTE CONTROL: Built in.
 TUBES: 2-6F55, 1-6SC7, 1-6C8G, 1-6SJ7, 2-6L6G, 1-5X4G.
 CURRENT DRAIN: 6 volt D. C. 23.5 amps., 117 volt A. C. 120 watts.
 DIMENSIONS: 16" long x 16" wide x 10¼" high.

BOGEN EX25 De Luxe "Streamliner" Systems

MODELS WITH LOW AND HIGH IMPEDANCE INPUTS



**25
Watts**

- ★ **Exclusive New Triple Range Electronic Tone Corrector**
- ★ **Controls—Bass, Treble and Intermediate Tone Ranges**
- ★ **Four Channel Inputs**
- ★ **Three microphones and phono**
- ★ **Built-in Remote Control provision for all inputs**
- ★ **Illuminated Sloping Control Panels**
- ★ **Push pull 6L6 outputs**
- ★ **Inverse feedback**
- ★ **Outdoor Weather-proof Trumpet Systems**

To those discriminating purchasers who are interested in obtaining the finest in sound equipment, we offer the de luxe EX25 "Streamliner" Amplifier and sound systems. The most outstanding feature of the new "Streamliner" is the exclusive TRIPLE RANGE ELECTRONIC TONE CORRECTOR. Three ranges of tone are controlled by the new TRIPLE TONE CORRECTOR—Bass, Treble and the middle register. Each tonal range is governed by a separate electronic audio channel, three in all, and by means of the two tone corrector controls, complete variation of all tone ranges is obtained. The Tone Corrector is not to be confused with ordinary tone controls, compensators or equalizers. It is an amplitude control of tone and does not introduce any loss, frequency discrimination or distortion common to other types of tone controls. The EX25 "Streamliner" furnishes input channels for three microphones and one phono. Each input channel is individually controlled and electron mixing permits complete use of all four channels simultaneously. All inputs of the Model EX25 are high impedance, but a low impedance model, the EL25, is available for those installations where long microphone leads are needed. The EL25 "Streamliner" is equipped with one Low Impedance Microphone Input—Two High Impedance microphone inputs and phono input. Additional low impedance inputs are available at an additional cost. Another feature of the new "Streamliner" amplifiers is the Remote Control provision built-in which permits mixing and fading of either two microphones or microphone and phono from a remote point. Full length illuminated sloping control panels give greater visibility and ease of operation. Variable tapped outputs are provided and two speaker sockets facilitate connecting of speakers. The fine quality construction, exceptional features and remarkable performance of the new Bogen "Streamliners" will readily establish their superiority among those who know sound.

DE LUXE MODEL EX25 "STREAMLINER" \$105.00
—Amplifier, complete with tubes. Price

LOW IMPEDANCE AMPLIFIER

MODEL EL25 "STREAMLINER"—With first microphone input channel equipped for low impedance. When ordering specify one of the following impedances: 50, 200, 500 ohms. Model EL25 "Streamliner" amplifier complete with tubes. Price

\$127.50

NOTE: If additional low impedance input channels are desired, specify when ordering and add \$22.50 per channel to above price.

BOGEN EX25 "STREAMLINER" SOUND SYSTEMS

MODEL EX25F—Complete basic "Streamliner" system includes: 1—EX25 amplifier, 1—Kit of matched tubes, 2—Jensen heavy duty PM12B 12" dynamic speakers each with 25' heavy rubber covered speaker cable and plugs and, choice of 1—(a) Amperite BH velocity microphone, (b) BOGEN de luxe velocity model VR-HF, (c) Amperite BAH dynamic, (d) American D8T dynamic, (e) Astatic T3 crystal. Each with 25' cable and plugs. Model EX25F \$183.50 "Streamliner" system. Price

\$183.50

FOR INDOOR INSTALLATIONS

MODEL EX25B "STREAMLINER"—Complete system, same as above, but with 2—W12 de luxe walnut speaker baffles with reinforcing inner baffles. Price

\$206.00

FOR PORTABLE USE

MODEL EX25P "STREAMLINER"—Complete system, same as EX25F, but with 1—Heavy duty reinforced No. 134 dual speaker case, one No. 133 de luxe amplifier case. Price **\$214.00**

FOR OUTDOOR INSTALLATIONS

MODEL EX25T "STREAMLINER"—Complete system includes: 1—Model EX25 amplifier, 1—Complete kit of tubes, 1—Bogen-University 4 1/2' reflexed non-resonant weatherproof trumpet and 1—Bogen-University 25-watt PM Dynamic Trumpet Unit (not a dynamic cone speaker), choice of 1—(a) Amperite BH velocity microphone, (b) BOGEN de luxe velocity model VR-HF, (c) Amperite BAH dynamic, (d) American D8T dynamic, (e) Astatic T3 crystal. Each with 25' cable and plugs. Price **\$194.00**

ADDITIONAL OUTDOOR TRUMPET

MODEL SALH—Bogen-University, 4 1/2' reflexed non-resonant weatherproof Trumpet and mounting bracket with 25-watt Bogen-University Trumpet Unit. Price **\$64.00**

MODEL SRC50—SR Remote Control, for use with any of above systems or amplifier, complete with Model RC50 50' cable and plugs. Price **\$9.25**

MODEL EX25 "STREAMLINER" SPECIFICATIONS

POWER OUTPUT: 25 watts undistorted (less than 5 per cent.)—peak power—35 watts.

INPUT CIRCUITS: Four input channels—three Microphone inputs, 1—Phono input.

INPUT IMPEDANCES: Microphone channels—High impedance 500,000 ohms. (Low impedance channels available in Model EL25 provides taps of 50, 200, 500 ohms.) Phono input—High impedance—500,000 ohms.

OUTPUT CIRCUITS: Tapped terminal strip and two plug-in speaker sockets.

OUTPUT IMPEDANCES: 2, 4, 9, 250 and 500 ohms available at both terminal strip and sockets.

GAIN: Microphone Inputs—128 db.; Phono Input—88 db.

FREQUENCY RESPONSE: 30 to 14,000 cycles + or - 1 db. Tone corrector range. Bass control - 15 db. to + 13 db. at 30 cycles. Treble control - 15 db. to + 12 db. at 10,000 cycles.

TONE CONTROL: Triple Range Electronic Tone Corrector; Intermediate Range, fixed. 1—Bass control, 1—Treble control.

CONTROL PANEL: Illuminated. Mounting three microphone controls, one phono control, 2 electronic tone corrector controls and master A.C. power switch.

REMOTE CONTROL PROVISION: Built-in. Provides complete mixing and fading of any two of the four available inputs from remote point.

TUBES: 3—6SF5, 1—6C8G, 3—6F8G, 2—6L6G, 1—5X4G.
POWER CONSUMPTION: 225 watts, 117 volts, 50-60 cycles A.C.
DIMENSIONS: 16 1/2" x 8 1/2" x 10 1/4"

BOGEN E30 "Trail Blazer" Sound Systems

MODELS WITH LOW AND HIGH IMPEDANCE INPUTS

30

Watts



- ★ Three Input Channels
- ★ Two Microphones and Phono
- ★ Electron Mixing on all channels
- ★ Full Range Controls
- ★ Treble and Bass Tone Compensator
- ★ Built-in Remote Control for all Inputs (Optional)
- ★ Beam Power 6L6 Push Pull Outputs
- ★ Illuminated Sloping Control Panel
- ★ Outdoor Weather-proof Trumpet Systems

ESTABLISHING a new standard of quality, performance and features, the new Bogen E30 "Trail Blazer" amplifier and systems, leads the way in offering finer sound equipment at lower and more popular prices.

Available in both High and Low Impedance Models, the E30 "Trail Blazer" units are seven-tube high gain amplifiers using the popular 6L6 Beam Power Tubes in the output stage to insure maximum power output and excellent tone quality. Equipped with three input channels for two microphones and one phono the E30 amplifier permits wide flexibility of operation. Each input channel is individually controlled and all channels can be mixed and used simultaneously. All inputs are high impedance on the Model E30. The Model EL30 Low Impedance amplifier is provided with a low impedance microphone input channel which is extremely valuable for installations where long microphone cables are used. In addition, the EL30 amplifier includes a second high impedance microphone input and a separate phono input thereby permitting the use of both high and low impedance microphones. An optional feature is the Remote Control provision which can be obtained built-in to any "Trail Blazer" amplifier. This feature permits complete wired or wireless remote control and mixing of any two of the available three input channels from distant points as far as 2,000' from the amplifier. For complete variation of tone, a bass and treble compensator is built-in insuring better variation of tone ranges than the ordinary tone controls commonly used. An illuminated sloping panel, handsomely etched in bright modern colors matches the smart streamline chassis design. A variable impedance output strip and two built-in speaker sockets add greater convenience for speaker connection and matching. All component parts are selected materials of the finest quality and "Trail Blazer" amplifiers are engineered to give lasting and consistent service.

MODEL E30 "TRAILBLAZER"—Amplifier and tubes. Price..... **\$86.50**

LOW IMPEDANCE AMPLIFIER

MODEL EL30—30-watt amplifier, same as above Model E30 "Trail Blazer" but with first microphone input channel equipped for low impedance. When ordering specify one of the following impedances: 50, 200, 500 ohms. Model EL30, complete with tubes. Price..... **\$109.00**

NOTE: If both microphone channels are desired equipped for low impedance operation specify when ordering and add \$22.50 to above price.

BOGEN E30 "TRAIL BLAZER" SYSTEMS

MODEL E30F—Complete basic system, includes 1 Model E30 amplifier and tubes, 2—12" Jensen PM12C speakers each with 25' cable and plugs. 1—Astatic JT30 Crystal microphone, with 25' cable and plugs. Price..... **\$131.50**

FOR INDOOR INSTALLATIONS

MODEL E30B—Same as above, with 2—BA12 Walnut speaker baffles. Price..... **\$146.50**

FOR PORTABLE USE

MODEL E30P—Same as E30F but with Model E30 portable carrying case for 2 speakers and amplifier. Price..... **\$149.00**

FOR OUTDOOR INSTALLATIONS

MODEL E30T—Complete system includes: 1—E30 amplifier and tubes, 2—Bogen-University 3½" reflexed non-resonant weatherproof trumpets each with swivel mounting brackets, 2—25-watt Bogen-University PM trumpet units (not dynamic cone speakers), 1—Astatic Crystal JT30 microphone, and 25' of cable and plugs. Price..... **\$205.00**

CHOICE OF MICROPHONES, other than those listed above: (a) Amperite BH velocity, (b) BOGEN de luxe velocity model VR-HF, (c) Amperite BAH dynamic, (d) American D8T dynamic, (e) Astatic T3 crystal. Each with 25' cable and plugs. Add to any of above system prices..... **\$8.50**

OPTIONAL FEATURE—Remote control circuit built-in for operation of all input channels, can be obtained at an additional \$5.00, if specified when ordering.

MODEL SRC50—SR remote control comes complete with RC50, 50' cable and plugs. Model SRC50. Price..... **\$9.25**

MODEL E30 "TRAILBLAZER" SPECIFICATIONS

POWER OUTPUT: 30 watts undistorted (less than 5 per cent.), peak power, 40 watts.

INPUT CIRCUITS: Three input channels, two Microphone inputs, one Phono input.

INPUT IMPEDANCES: Microphone channels: High impedance 500,000 ohms. (Low impedance channels available in Model EL30 provides taps of 50, 200, 500 ohms.) Phono input, High impedance, 500,000 ohms.

OUTPUT CIRCUITS: Tapped terminal strip and two plug-in speaker sockets.

OUTPUT IMPEDANCES: 2, 4, 9, 250 and 500 ohms available at both terminal strip and sockets.

GAIN: Microphone Inputs—129 db. Phono input—89 db.

FREQUENCY RESPONSE: 40 to 12,000 cycles + or — 1.5 db.

TONE CONTROL: 1—Bass, Treble compensator.

CONTROL PANEL: Illuminated. Mounting two microphone controls, one phono control, one tone compensator control and master A.C. power switch.

REMOTE CONTROL PROVISION (OPTIONAL): Built-in, provides complete mixing and fading of any two of the three available inputs from remote point.

TUBES: 2—6SF5, 1—6C8G, 1—6F8G, 2—6L6G, 1—5X4G.

POWER CONSUMPTION: 130 watts, 117 volts, 50-60 cycles A.C.

DIMENSIONS: 15" x 7¾" x 9¼".

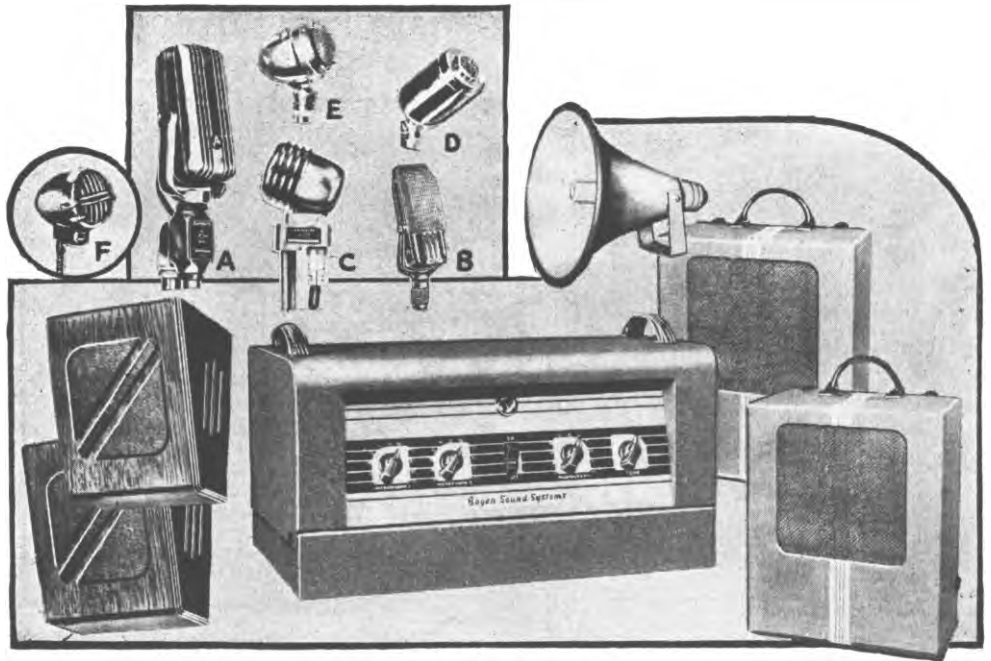
BOGEN E20 "Century" SOUND SYSTEMS

MODELS WITH LOW AND HIGH IMPEDANCE INPUTS

20

Watts

- ★ Triple Channel Inputs
- ★ Two Microphones and Phono
- ★ Full Range Controls
- ★ Electron Mixing on all Inputs
- ★ Bass and Treble Tone Compensator
- ★ Built-in Remote Control for all Inputs (Optional)
- ★ 6L6 Beam Power Push Pull Outputs
- ★ Illuminated Sloping Panel Controls
- ★ Outdoor Weather-proof Trumpet Systems



THE new Bogen Model E20 "Century" Amplifiers and systems represent the best in engineering design and quality of performance in their price range. They offer the latest features in sound development which assure smooth flawless tone quality and high power. The new 20-watt "Century" justifies its name as the leader of its class.

The E20 is provided with 3 input channels for two microphones and phono and electronic mixing permits the use of all three channels at one time. Input channels on the model E20 are high impedance suitable for all high impedance microphones. The Model EL20 is a low impedance amplifier with one microphone input for low impedance operation, the other microphone input and phono are high impedance as in the E20. This exclusive low impedance feature is extremely desirable where microphones must be operated at a considerable distance from the amplifier. Another feature, which is optional in the "Century" amplifiers, is the remote control circuit which permits mixing any two of the three input channels, from a remote point. The exclusive Bogen remote circuits require no shielded cable and can be operated with either wired or wireless controls over 2,000' away. A compensated bass and treble equalizer is another superior feature of the "Century" amplifiers and gives far truer control of tone than the ordinary tone controls commonly used. Ease of operation is a keynote of these new Bogen units as indicated by the new sloping control panel which is illuminated for greater visibility. A variable tapped output strip of new design insures proper matching of speaker impedances. In addition 2 built-in speaker sockets are provided for greater convenience. The units are beautifully finished in gray wrinkle and the panels are etched in a smart modern, colorful design in keeping with the streamlined trend of today.

BOGEN MODEL E20 "CENTURY"—Amplifier, complete with tubes. Price..... \$79.50

LOW IMPEDANCE AMPLIFIER

MODEL EL20 "CENTURY" AMPLIFIER — 20-watt amplifier same as above Model E20 "Century" but with first microphone input channel equipped for low impedance operation, tapped at 50, 200 and 500 ohms. Specify tap setting desired when ordering. Model EL20, complete with tubes. Price..... **\$102.00**

NOTE: If both microphone channels are desired equipped for Low Impedance operation, specify when ordering and add \$22.50 to above price.

BOGEN E20 "CENTURY" SYSTEMS

MODEL E20F—Complete basic system includes: 1 Model E20 amplifier, 1 kit of matched tubes, 2 Jensen 12" PM12C speakers with 25' cable and plug on each. 1—Astatic JT30 Crystal microphone and 25' cable and plug. Price..... **\$124.50**

FOR INDOOR INSTALLATIONS

MODEL E20B—Complete system, same as above but with 2—BA12 Walnut speaker baffles. Price..... **\$139.50**

FOR PORTABLE PURPOSES

MODEL E20P—Complete system, same as above but with Model E20 portable carrying case for two speakers and amplifier. Price..... **\$142.00**

FOR OUTDOOR INSTALLATIONS

MODEL E20T—Complete outdoor system includes: 1—E20 amplifier, 1—kit of matched tubes, 1—Bogen-University 3½' reflexed non-resonant, completely weather-proof trumpet, with swivel mounting bracket, 1—25-watt Bogen-University PM trumpet unit (not dynamic cone speaker), 1—Astatic JT30 Crystal microphone and 25' cable and plugs. Price..... **\$147.00**

CHOICE OF DE LUXE MICROPHONES other than listed above: (a) Amperite BH velocity microphone, (b) BOGEN deluxe velocity model VR-HF, (c) Amperite BAH dynamic, (d) American D8T dynamic, (e) Astatic T3 crystal. Each with 25' microphone cable and plugs. Add to any above system prices..... **\$8.50**

OPTIONAL FEATURE

Remote control circuit built-in for operation of all input channels can be obtained at an additional \$5.00 list if specified when ordering.

MODEL SRC50—Remote control comes complete with RC50, 50' cable and plugs. Price..... **\$9.25**

ADDITIONAL OUTDOOR TRUMPET

MODEL SAPH — Bogen-University 3½' reflexed non-resonant weatherproof trumpet and mounting bracket with 25-watt Bogen-University Trumpet unit (not a dynamic cone speaker). Price..... **\$51.00**

MODEL E20 "CENTURY" SPECIFICATIONS

POWER OUTPUT: 20 watts undistorted (less than 5 per cent.), peak power, 30 watts.

INPUT CIRCUITS: Three input channels, two Microphone inputs, one Phono input.

INPUT IMPEDANCES: Microphone channels—High impedance 500,000 ohms. (Low impedance channels available in Model EL20 provides taps of 50, 200, 500 ohms.) Phono input, High impedance, 500,000 ohms.

OUTPUT CIRCUITS: Tapped terminal strip and two plug-in speaker sockets.

OUTPUT IMPEDANCES: 2, 4, 9, 250 and 500 ohms available at both terminal strip and sockets.

GAIN: Microphone Inputs—127 db.

Phono Inputs—87 db.

FREQUENCY RESPONSE: 40 to 12,000 cycles + or - 1.5 db.

TONE CONTROL: 1—Bass, Treble compensator.

CONTROL PANEL: Illuminated. Mounting two microphone controls, one phono control, 1 tone compensator control and master A.C. power switch.

REMOTE CONTROL PROVISION (OPTIONAL): Built-in—provides complete mixing and fading of any two of the three available inputs from remote point.

TUBES: 2—6SF5, 1—6C8G, 1—6F8G, 2—6L6G, 1—5X4G.

POWER CONSUMPTION: 120 watts, 117 volts, 50-60 cycles A.C.

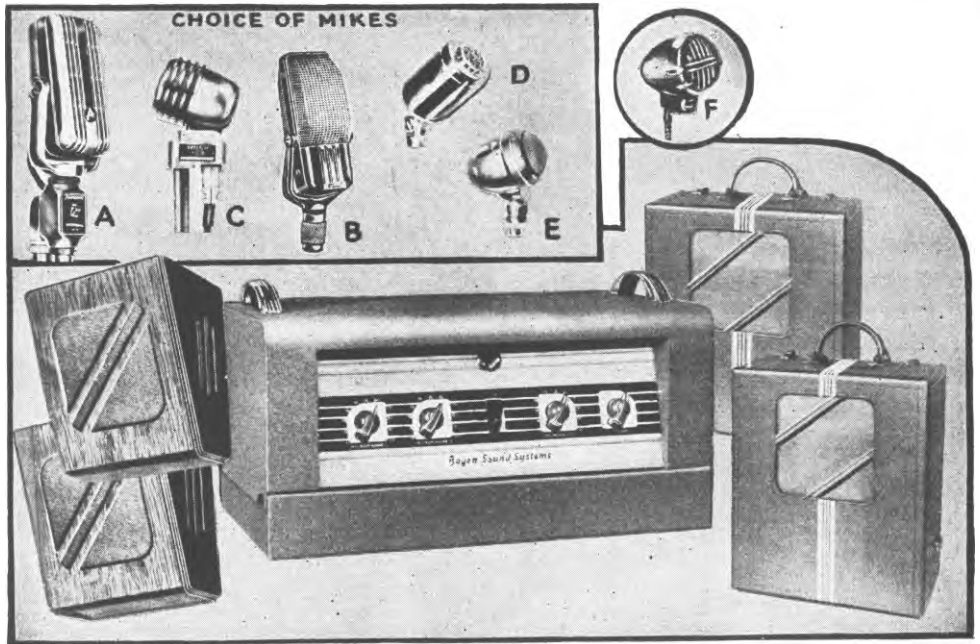
DIMENSIONS: 14" x 7¾" x 8".

BOGEN E14 "Pacemaker" Sound Systems

MODELS WITH LOW AND HIGH IMPEDANCE INPUTS

**14
Watts**

- ★ Multi-channel Inputs
- ★ Two Microphones and Phono
- ★ Full Range Electron Mixing on All Inputs
- ★ 6L6 Beam Power Push Pull Outputs
- ★ Bass and Treble Tone Compensator
- ★ Remote Control for All Inputs—Optional
- ★ Variable Impedance Speaker Matching and Tapped Outputs
- ★ Illuminated Sloping Controls Panel



THE new Model E14 "Pacemaker" Sound Systems set the pace for medium powered Public Address equipment in the popular price range.

No other amplifier or system incorporates all of the features, listed above, at these low prices. Most of these features have only been available in larger so-called De Luxe units selling at much higher prices. The Bogen E14 "Pacemaker" is a 7-tube high gain amplifier providing three input channels for two microphones and phono. Each microphone input has its own separate input tube and full range individual gain control. Phono input is also provided with separate gain control and electronic mixing is effected between all three channels simultaneously. All input channels are high impedance and microphone inputs are universal for use with all current high impedance microphones, dynamic, crystal, velocity, or velotron. Low impedance inputs, an exclusive Bogen feature, are available on any or all inputs in the Model E14 amplifier, (described below). A new and exclusive two channel remote control input for wired or wireless remote controls is an optional feature of the Model E14. Bogen remote controls permit the operator to mix and fade any two of the three input channels available from a remote point and are not to be confused with remote controls that do not provide mixing or multi-channel operation. With the exclusive Bogen Remote Control the operator can control either two microphones or one microphone and phono at will. A bass and treble tone compensator is another De Luxe feature built in the Model E14 "Pacemaker." This is not an ordinary tone control but permits accentuation of the bass or treble ranges at will. A pair of 6L6 beam power output tubes in push-pull assure ample power with excellent quality. A beautifully etched, sloping control panel illuminated for greater visibility enhances the appearance of the new Bogen E14 "Pacemaker." For ease of connection lock type shielded connectors are provided for the microphone inputs, terminal strips for phono inputs and a new variable output terminal strip tapped at 2, 4, 9, 250, and 500 ohms insures quick and easy speaker matching. For further convenience two speaker sockets are built-in. The new E14 "Pacemaker" establishes a new standard in the medium priced field.

MODEL E14 Amplifier and Tubes. Price..... **\$65.00**

LOW IMPEDANCE AMPLIFIER

MODEL EL14—14 watt amplifier same as Model E14 "Pacemaker" above with first microphone input channel equipped for low impedance operation—tapped at 50, 200 and 500 ohms. Specify tap setting desired when ordering. **MODEL EL14**. **\$87.50** complete with tubes. Price.....

NOTE: If both microphone channels are desired equipped for low impedance operation, specify when ordering and add \$22.50 to above price.

BOGEN MODEL E14 SYSTEMS

MODEL E14F—Complete basic system consists of: 1—Bogen Model E14 "Pacemaker" amplifier, 1—Kit of matched tubes, 2—10" Jensen PM10C Dynamic speakers each with 25' of speaker cable

and plug. Astatic JT30 Crystal microphone and 25' of microphone cable fitted with lock type connectors. **MODEL E14F** "Pacemaker" System as described above. Price... **\$104.50**

FOR INDOOR INSTALLATIONS

MODEL E14B—Complete system. Same as E14F but with 2—BA10 Walnut speaker baffles. **\$116.00**
Price

FOR PORTABLE USE

MODEL E14P—Complete system. Same as E14F but with Model K14 Portable Carrying Cases for two speaker-**\$120.00**
ers and amplifier. Price.....

CHOICE OF DE LUXE MICROPHONES than listed above (a) Amperite BH velocity, (b) BOGEN de luxe velocity Model VR-HF, (c) Amperite BAH dynamic, (d) American D8T dynamic, (e) Astatic T3 crystal microphone. Each with 25' cable and plugs. **\$8.50**
Add to any above system prices

OPTIONAL FEATURE

Remote control circuit built-in for operation of all input channels can be obtained at an additional \$5.00 list if specified when ordering.

MODEL SRC50—SR remote control complete with RC50, 50' cable and plugs. **\$9.25**
Price

MODEL E14 AMPLIFIER SPECIFICATIONS

POWER OUTPUT: 14 watts undistorted (less than 5 per cent.), peak power, 25 watts.

INPUT CIRCUITS: Three input channels, two Microphone inputs, one Phono input.

INPUT IMPEDANCES: Microphone channels—High impedance 500,000 ohms. (Low impedance channels available in Model EL14 provides taps of 50, 200, 500 ohms.) Phono input, High impedance, 500,000 ohms.

OUTPUT CIRCUITS: Tapped terminal strip and two plug-in speaker sockets.

OUTPUT IMPEDANCES: 2, 4, 9, 250 and 500 ohms available at both terminal strip and sockets.

GAIN: Microphone Inputs—125 db.
Phono Inputs—85 db.

FREQUENCY RESPONSE: 40 to 12,000 cycles + or - 1.5 db.

tone CONTROL: 1—Bass, Treble compensator.

CONTROL PANEL: Illuminated. Mounting two microphone controls, one phono control, one tone compensator control and master A.C. power switch.

REMOTE CONTROL PROVISION (OPTIONAL): Built-in, provides complete mixing and fading of any two of the three available inputs from remote point.

TUBES: 2—6SF5, 1—6C8G, 1—6F8G, 2—6L6G, 1—5Y4G.

POWER CONSUMPTION: 90 watts, 117 volts, 50-60 cycles A.C.

DIMENSIONS: 14" x 7 3/4" x 8"

BOGEN E620 "UNIVERSAL" Mobile System

← 20 WATTS →

THE Improved new Bogen E620 mobile system answers a long felt need for an economical amplifier that may be easily converted to operation from six volt storage battery or 115 volt A. C. Change-over from 6 volt battery to 110 volt A. C. is automatic.

The E620 amplifier comprises a single self-contained amplifier unit with its own power supply and phono assembly. Microphone and phono inputs may be mixed or faded thru two independent volume or gain controls. A Bass or Treble compensator control is featured. The E620 does not require any outside power packs.

The E620 is furnished with a phono assembly comprising a constant speed motor, powered by its own built in pack to eliminate any speed variation or waiver on 6 V. D. C. and 110 V. A. C. The phono assembly is complete with Astatic crystal pickup.

Tapped output transformer — Speaker plug-in connections — Smart styling and fine performance makes this an amplifier that lends itself to a wide variety of uses.



MODEL E620 SYSTEM
complete with phono assem.
and tubes. **\$105.00**
Price

MODEL E620F SYSTEM—Complete with E620 amplifier and tubes. Two Jensen Heavy Duty PM12C dynamic speakers, Astatic JT30 crystal microphone with 25' microphone cable and 15' speaker cable and plugs on each speaker. Complete. Price **\$149.50**

MODEL E620T SYSTEM—Complete with Model E620 amplifier and tubes. One University 3½' high power trumpet and 25 watt unit, Astatic JT30 crystal microphone with 25' micro- phone cable and plugs. Complete. Price **\$174.25**

NOTE: If any Model E620 amplifier or system should be desired less phono assembly—specify when ordering and deduct \$15.00 from list. Model E620 Systems are available with choice of de luxe microphone at an additional \$8.50 list price; (a) Amperite BH velocity, (b) BOGEN de luxe velocity Model VR-HF, (c) Amperite BAH dynamic, (d) American D8T dynamic, (e) Astatic T3 crystal microphone. Each with 25' cable and plugs.

MODEL SRC50-SR remote control for use with any system or amplifier described above. Complete with Model RC50 —50' cable and plugs. Model SRC50, price **\$9.25**

E620 AMPLIFIER SPECIFICATIONS

OUTPUT: 20 watts.
OUTPUT IMPEDANCES: 2-4-8-250-500 ohms.
GAIN: Microphone 116 db. Phono 69 db.
INPUT: Two—1 microphone—500,000 ohms. 1 phono—500,000 ohms.
FREQUENCY RESPONSE: 30—12000 cycles.
TUBES: 1-6SJ7, 1-6SC7, 2-6L6G, 1-6W5G.
CURRENT DRAIN: 6 volt D. C.—13.75 amps. 117 V. A. C.—95 watts.
DIMENSIONS: 15" long x 9¼" deep x 8½" high.

BOGEN E100 BOOSTER AMPLIFIER 100 WATTS



THE new Bogen 100 Watt Booster lends itself ideally to large installations such as stadiums, memorial parks, auditoriums, ball parks, etc.

This booster embodies the latest tube development—the beam power tube. Four 6L6 tubes arranged in push-pull parallel are used to deliver 100 watts of undistorted power output. All transformers are generously designed to give the excellent regulation so necessary in this type of circuit.

Despite the enormous power output, surprisingly little driving power is necessary—only 2 watts. Thus any existing small system may easily be converted into a high powered installation of the largest type.

Input 15, 50, 250 and 500 ohms; output 500, 250, 166, 125, 100, 84 and 72 ohms. Separate secondary for voice coil with taps at 15, 9, 4 and 2 ohms to enable the matching of any combination of speakers or lines. Connections on terminal strips.

Tube Complement: 4—6L6 beam power tubes, 3—5X4G rectifier tubes.

MODEL E-100—Complete, with tubes..... **\$126.00**

D-100 BOOSTER AMPLIFIER SPECIFICATIONS

OUTPUT: 100 watts—less than 5 per cent. Harmonic Content.
TUBE COMPLEMENT: 4—6L6G, 3—5X4G.
CONTROLS: 1 Master Power Switch.
INPUTS: 1—Tapped for variable matching.
INPUT IMPEDANCES: 15, 50, 250 and 500 ohms.

GAIN: Overall 17 db.
FREQUENCY RESPONSE: 30 to 12,000 cycles.
OUTPUT IMPEDANCES: 72, 84, 100, 125, 166, 250 and 500 ohms —also 2, 4, 9, 15 ohms.
CURRENT DRAIN: 300 watts, 110 volts, 50-60 cycles.
DIMENSIONS: 9" deep, 16½" wide, 9½" high.

BOGEN EP10 De Luxe Economy System

10 Watts

THE improved Bogen EP10 system meets the demand for medium powered, two speaker sound systems at an economical price. Many features of the more expensive de luxe systems are incorporated in the EP10.

The amplifier is equipped with separate input channels for one microphone and one phono. These two channels each have their own full range gain control. Electronic mixing permits fading and mixing between both channels and also their use simultaneously. A high frequency tone control is provided. All controls and A. C. switch are mounted on an especially styled and colorful control panel.

The output circuit comprises a pair of 6V6 beam power tubes in push-pull amplification assuring excellent tone quality at max. volume. The output transformer is tapped at 2-4-8-250-500 ohms and connected to a speaker terminal strip. In addition two speaker sockets are built in and provide quick and easy means of connecting speakers.

The E10 amplifier may be used in many types of installations for hard of hearing aids, small paging systems, etc. The unit is ideal for speech modulation and may be used as a driver for medium powered transmitters.

The components used in making up the EP10 sound systems assure fidelity of reproduction, and dependable long life for continuous operation.

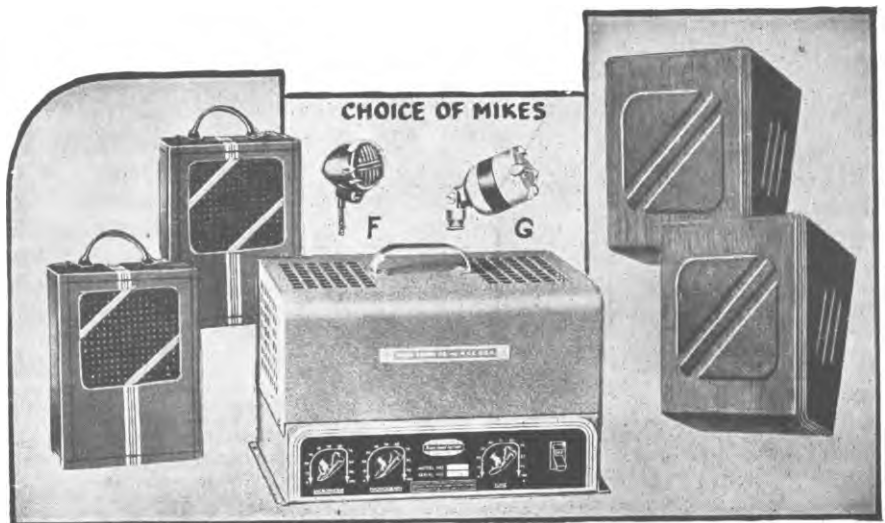
MODEL EP10F "Economy" system comprises 1—E10 amplifier with tubes; 2—10" PM dynamic speakers. Each with 25' cable and plugs, and one Astatic Crystal microphone Model JT30 and 25' cable. Complete system as above. Price **\$82.00**

FOR INDOOR INSTALLATIONS

MODEL EP10B—Complete system same as above but with two BA10 Walnut Baffles. Price **\$93.50**

FOR PORTABLE USE

MODEL EP10P—Complete system same as EP10F but with port-



able two section leatherette covered carrying case Model 10A for carrying amplifier and mounting the 2 speakers. Price **\$95.50**

MODEL E10—Amplifier only, complete with tubes. Price **\$49.50**

NOTE: If system is ordered less microphone DEDUCT \$12.50.

E10 AMPLIFIER SPECIFICATIONS

OUTPUT: 10 watts—less than 5% distortion.
 OUTPUT IMPEDANCES: 2-4-8-250-500 ohms.
 FREQUENCY RESPONSE: 65—9000 ± 2 db.
 CONTROLS: Three—one microphone, one phono, one tone.
 GAIN: Microphone 114 db., phono 75 db.
 INPUTS: 1—microphone 500,000 ohm, 1—phono 500,000 ohm.
 TUBES: Total 5; 2-6SC7; 2-6V6; 1-5Y4G.
 CURRENT DRAIN: 88 watts at 117 v. A. C.
 DIMENSIONS: 7" deep x 11" wide x 7-5/16" high.

BOGEN DP6 "ULTRA-COMPACT" SYSTEM

6 WATTS



THE new DP6 low-priced systems are designed for small public address installations, providing ample volume to cover halls with a capacity up to 500 persons. The system is compact, powerful and capable of excellent reproduction. The amplifier is mounted in the attractive leatherette covered case, which also serves as baffle for a heavy duty 8" Electro Dynamic speaker. The entire unit, assembled for portable use measures only 12½" x 5¼" x 14" and weighs only 15½ lbs. The amplifier features Dual Channel inputs for one microphone and one phono.

Each input is provided with a full range gain control and electron mixing permits the use of both channels simultaneously. A tone control is provided for improvement of reproduction in different installations.

MODEL DP6F—System, complete includes: 1—D6 amplifier; 1—complete kit of matched tubes; 1—8" Electro Dynamic Speaker. An Astatic JT30 crystal microphone with 25' of microphone cable and plugs. The entire system is mounted in leatherette covered carrying case.

MODEL DP6F—6-watt system, complete as described above. Price **\$63.75**

MODEL D6—Amplifier only with tubes. Price **\$31.00**

MODEL 25—25' Speaker extension cable. Price **\$2.50**

NOTE: If system is ordered less microphone deduct \$12.50.

D6 AMPLIFIER SPECIFICATIONS

OUTPUT: 6 watts—less than 5 per cent. harmonic content.
 TUBE COMPLEMENT: 2—6C8G, 1—6L6G, 1—5X4G.
 CONTROLS: One microphone, one phono, one tone.
 INPUTS: Two—one microphone, one phono.
 INPUT IMPEDANCES: Microphone, 500,000 ohms; phono, 500,000 ohms.
 GAIN: Microphone, 123 db.; phono, 84 db.
 FREQUENCY RESPONSE: 70 to 8000 cycles—plus or minus 2 db.
 OUTPUT IMPEDANCE: Plate, 2500 ohms.
 CURRENT DRAIN: 73 watts, 110 volts, 50-60 cycles.
 FIELD SUPPLY: 1000 ohms.
 DIMENSIONS: 4½" deep, 11" wide, 7½" high.

BOGEN RA10 Recording Amplifier



HIGH FIDELITY Model RA10

**10
Watts**

FEATURING:

- ★ Three Input Channels
- ★ Electronic Mixing
- ★ Automatic Speaker Monitoring
- ★ Music-Speech Compensator
- ★ Illuminated Recording Level Meter
- ★ Class A Push Pull
- ★ Less than 2% Distortion at Recording Level

provided for Playback Pickup and Recording Cutter and an A.C. receptacle permits connection of a recorder and control by the Master Power Switch on the RA10.

The entire unit is mounted on an extremely compact leatherette covered portable carrying case thereby increasing its utility and convenience in handling.

MODEL RA10—Amplifier, complete in Portable Case, with tubes. Price..... \$89.50

THE RA10 Amplifier is recommended as a companion unit for use with Bogen Models 212RP or 16RP Recorders.

Although the RA10 Amplifier is designed primarily for use as a High Fidelity Recording Amplifier its flexibility makes it ideal for use as a high quality Phono Amplifier for those who desire a unit especially suited for music reproduction. Universal Inputs also render it suitable for real quality medium powered Public Address Installations.

The RA10 Amplifier is a 10 watt class A amplifier incorporating many new features previously only available in the most costly custom built recording amplifiers. It provides three input channels, two with individual gain control permitting independent or simultaneous operation of both channels. Mixing and fading is possible while recording and when the amplifier is used as a public address system this feature is extremely desirable. One input is for microphone, one for playback pickup, the other can be used for external pickup, for radio recording or dubbing from another record. An illuminated recording level meter is mounted on the control panel. Another exclusive feature is the music-speech compensator which accentuates the high tones when making speech recordings and when music or radio recordings are made the bass range can be accentuated to obtain a fuller, richer tone which is desired with these recordings. Sufficient power is available to permit excellent volume on playback for large halls and auditoriums. Sockets are

MODEL RA10 SPECIFICATIONS

POWER OUTPUT: 10 watts. Less than 2% total harmonic distortion.
INPUT CIRCUITS: 3—Input channels; 1—Microphone Input; 1—Phono Input; 1—External Input for Phono or Radio. All Inputs High Impedance, 500M ohms.

OUTPUT CIRCUITS: 1—Speaker Jack, 8 ohms; 1—Output Socket for cutting head, 500 ohms.

GAIN: Microphone—115 db. External Input—76 db.

FREQUENCY RESPONSE: 30—12,000 cycles + or - 1 db.

CONTROLS: 1—Mike, Playback Input Selector Switch; 1—Microphone Control; 1—External Input Control; 1—Music-Speech Compensator switch; 1—Speaker-Record switch; 1—Master Power switch; 1—External A.C. Receptacle.

POWER CONSUMPTION: 75 watts, 105-125 volts, 50-60 cycles.

TUBE COMPLEMENT: 1—6F5; 2—6C8G; 2—6N6G; 1—5X4G.

DIMENSIONS: 17 3/4" x 9 3/4" x 8 3/4" overall.

BOGEN RA 6 Recording Amplifier

- ★ Two Input Channels
- ★ Instant Switchover for Recording or Playback
- ★ Calibrated Recording Level Meter
- ★ Class A Amplifier
- ★ Monitor Jack
- ★ External Speaker Provision

6 Watts

THE Model RA6 Amplifier has been designed with complete recording and playback facilities to serve as a companion unit for the Bogen 212RP recorder but it can be used with any standard recorder on the market.

Bogen engineers constructed the RA6 Amplifier with the thought in mind to simplify operation, minimizing the necessity for careful adjustment of the controls, thereby assuring the layman of consistently good recording without need for critical adjustments.

The change-over from recording to playback is done simply by means of a record-play switch. A master volume control and a master tone control are operative in either the recording or playback position. A high-quality moving coil-type meter mounted on the control panel indicates the proper recording level. Universal Input is provided for any high impedance microphone. A separate Jack permits connection of an external input device such as radio or phono pickup. A monitor Jack is also provided for earphone monitoring.

A full size electro dynamic loud speaker is mounted in the lower section of the carrying case of the RA6 Amplifier. This speaker is adequately baffled to insure excellent tone quality on playback reproduction. The speaker is only operated when the amplifier is in the playback position. When the recording switch is set to the recording position, this speaker is automatically cut off. An external speaker can be connected by means of a speaker Jack on the front panel.

For further convenience, an A.C. receptacle is provided to permit the recorder to be plugged in. This enables the recorder and the recording amplifier to be turned on and off by means of the master power switch on the recording amplifier controlling the power.

Connections for the recorder cutting head and the playback pickup are made through a five-prong socket, also mounted on the front panel. A compartment for carrying microphones, cables and recording needles has been provided, built into the side of the carrying case.

The entire unit is assembled in a compact portable carrying case covered with a fine leatherette and reinforced throughout to withstand abuse and insure lasting service.

MODEL RA6—Recording Amplifier, complete with tubes and portable carrying case. Price..... \$60.00



RA6 AMPLIFIER SPECIFICATIONS

POWER CONSUMPTION: 73 watts, 110 volts, 60 cycles.

TUBES USED: 1—6J7G; 1—6K5G; 1—6L6; 1—5Y4G.

FREQUENCY RESPONSE: 50-10,000 cycles, + or - 2 db.

INPUT CIRCUITS: Two, 1—Microphone; 1—External Phono-Radio.

Both Inputs High Impedance—500M ohms.

OUTPUT: For 500-ohm cutter. 1—Speaker Jack, 4 ohms.

POWER OUTPUT: 6 watts at 5% distortion.

SPEAKER: 8" Electro-dynamic.

CONTROLS: Volume control and switch, tone control, record-play switch.

DIMENSIONS: 14" wide, 13 3/4" deep, 11 3/4" high.

P. A. Tuners and Phono Units

THE Bogen R200 is a three band receiver especially designed for operation in P. A. and centralized sound systems. Its design and construction is such that it may be easily connected into existing installations. The extreme sensitivity of this tuner makes it ideal for foreign reception.

CONNECTION TO AMPLIFIER

The R200 does not have its own audio channel but terminates in a shielded socket for plug in connections to the audio input of the amplifier. This output is from the diode detector at high impedance. The power supply for the R200 is made by plug in connection from any amplifier. All connections are easily made and it is not necessary to make any connections other than those supplied with plugs and sockets.

Other features are, positive push button tuning or 6 stations, a large full vision dial and magic eye tuning indicator.

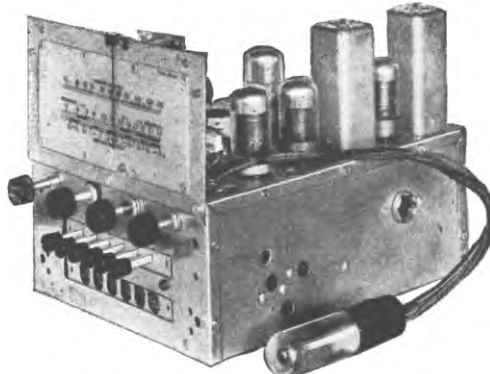
The R200 is ideal for use in rack and panel installations.

TUNER MODEL R201

MODEL R201 is identical to the tuner described above with the exception that the R201 has its own built in power supply, and plugs into 110 volt alternating current.

MODEL R200—Complete with tubes. Price **\$62.50**

MODEL R201—Complete with tubes. Price **\$75.00**



FEATURES

- ★ Superhetrodyne Receiver
- ★ 3 Band
- ★ Positive Push Button Tuning
- ★ Large Full Vision Dial
- ★ Engineered for Sound Quality

SPECIFICATIONS

Bands	BROADCAST	540—1600 KC
	POLICE	1.5—3.4 MC
	SHORT WAVE	5.3—18.0 MC
Sensitivity	BAND	MICRO VOLTS
	Broadcast	3.5
	Police	3.0
	Short Wave	11.0
Selectivity	KC OFF RESONANCE	D. B. ATTENUATION
	5.5	6.0
	10.0	10.0
	27.0	60.0
Tube Complement		
	MODEL R200—1-6B7; 1-7A8; 1-7B7; 1-7A6; 1-6U5.	
	MODEL R201—Uses a 5Y4G tube in addition to the ones listed above.	



MODEL PT16 PORTABLE PHONO AMPLIFIER

This general purpose phono player with amplifier is designed to handle 16" transcription records along with the standard variety.

The 12" turntable is driven by a special heavy duty General Industries dual speed motor for 33-1/3 and 78 RPM. The Astatic Crystal pickup feeds the built in 6 watt high quality amplifier that is equipped with master gain and tone controls. A Jensen 10" PM dynamic speaker is mounted in the cover of carrying case. This cover is removable and may be used at a distance from the main unit.

The PT16 is ideal as a portable record player to handle any size recordings. Operation is from 110 volt A. C. only.

DIMENSIONS: 23 1/2" x 17 1/4" x 10 3/4".

Model PT16 Price Complete with Tubes \$115.00

TUBES COMPLEMENT: 1-6Q7; 1-6N6G; 1-5Y4G.

MODEL PT16AD PORTABLE PHONO AMPLIFIER

Same as above Model PT16 except this model operates from either 110 volt A. C. or D. C. current and the output of the amplifier is 4 watts.

Model PT16AD—complete with tubes. Price \$136.50

TUBES USED: 1-25B6; 2-25L6; 1-6SC7.



PC120 PORTABLE AUTOMATIC RECORD CHANGER

The new General Industries record changer, PC120 is greatly improved over previous automatic changer models in both mechanical operation and styling.

It plays 12-10" records or 10-12" records automatically and provides for manual operation for single record playing. The new non-jamming record handling feature prevents damaging of records and even causes the machine to operate on warped records. Reject button permits rejecting of records instantly, and the complete mechanism is positive and quiet in operation.

Equipped with a true-tangent crystal pickup and an "on-off" switch mounted on a beautifully finished sturdy metal base. The complete assembly is housed in a handsome carrying case, covered with high quality gray leatherette with hand striping.

MODEL PC120—Price \$69.50

Bogen PHONO Assemblies



PORTABLE PHONOGRAPHS

THE models listed below are available with Green Flyer phono motors, either single or dual speed types. Single speed motors play 78 R.P.M. records. Dual speed motors play both 33-1/3 and 78 R.P.M. Each unit is entirely complete and self-contained and is available with crystal pickups. Carrying cases are well constructed, reinforced and covered with a durable gray leatherette.

MODEL 8006—Complete with Green Flyer single speed motor and 10" turntable equipped with crystal pickup for 110 volts, 60 cycles. Dimensions: 15" x 12 3/4" x 7 1/4". **\$30.00**
Price

MODEL 8006A—Same as 8006, but equipped in larger case with 12" turntable, for 110 volts, 60 cycles. Dimensions: 16" x 14 3/4" x 7 1/4". Price **\$32.25**
.....

MODEL 8007—Complete with Dual speed Green Flyer motor, 12" turntable and crystal pickup for 110 volts, 60 cycles. Dimensions: 16" x 14 3/4" x 7 1/4". Price **\$35.75**
.....

De-Luxe

PORTABLE PHONOGRAPH FOR 16" RECORDINGS

The De Luxe Model 8016 Portable Phonograph supplies the demand for a unit capable of playing 16" professional transcription recordings as well as the standard 10" and 12" records. The No. 8016 contains a heavy duty Green Flyer motor, dual speed for 78 and 33-1/3 R.P.M. Recordings. It is equipped with a crystal pickup and special 12" arm and comes complete with 12" turntable. The entire unit is mounted in a fine leatherette carrying case strongly reinforced and finished with leather corners and gunmetal hardware. For 110 volts, 60 cycles. Dimensions: 21 3/4" x 17" x 7".

MODEL No. 8016—Price **\$55.75**



CABINET TYPE PHONO FOR HOMES OR SCHOOLS

The Model 8004 contains a special constant speed self-starting motor and 9" turntable. It is equipped with a high quality pickup of the latest design which assures more perfect record reproduction. The entire unit is housed in a beautiful two-tone walnut finished cabinet which will harmonize with any home furnishings.

MODEL No. 8004—Dimensions: 14 3/4" x 13 1/4" x 6 3/4". **\$24.50**
.....

MODEL No. 8004A—Same as above but assembled in portable leatherette carrying case. Dimensions: 15" x 12 3/4" x 7 1/4". Price **\$24.50**
.....

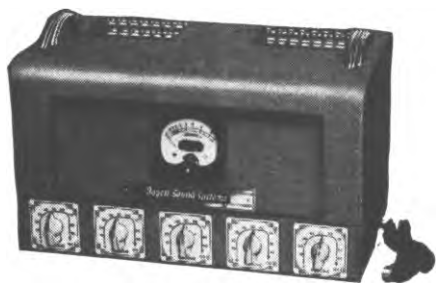
BOGEN MODEL WP WIRELESS RECORD PLAYER

The Bogen Wireless Record Player is an unusual record playing device, which plays regular phonograph records through any radio set, regardless of type or age and without any wires to connect between the radio and the record player. A compact built-in wireless transmitter "Broadcasts" the recorded music to your radio. Merely plug in the WP Wireless Player to any 110-volt a.c. electric outlet and tune your radio set to the Wireless Player's frequency and your radio set will reproduce the recorded selection. The volume control on your radio set serves to regulate volume in the usual manner and the tone quality is as perfect as your radio. The Model WP is equipped with an Astatic Crystal Pickup with latest tangent arm and a constant speed self-starting motor is built-in with separate "on-off" switch. The Bogen Wireless Phono will play 10" or 12" records at the standard 78 r.p.m. speed and the entire unit is assembled in a beautifully finished two-tone walnut cabinet which will harmonize with the finest surroundings. Overall Dimensions: 14 3/4" x 13 1/4" x 6 3/4".

MODEL WP—Wireless Record Player—complete with tubes. Price **\$29.50**
.....



BOGEN 4 Channel Pre Amplifiers and Mixers



MODEL HLO FOUR CHANNEL PRE-AMPLIFIER AND MIXER

Same as Model HH with four high impedance inputs, except the output of this mixer is equipped with a zero level output amplifier terminating in 50-125-200-500 ohms. A built in DB meter on control panel is used to indicate output level.

SIZE: 14-1/16" long x 8" deep x 7 7/8" high.

TUBE KIT: 4-6SJ7; 1-6SF5; 1-6C5; 1-5W4.

MODEL HLO with kit of matched tubes. Price.... **\$84.50**

MODEL HH—This four position mixer and pre-amplifier allows any four high-impedance microphones to feed into any high impedance amplifier. Each input channel has its own gain control. A master volume control is provided for overall gain. The unit includes its own built in power supply.

The Bogen Model HH will answer to a wide variety of uses such as mixing and adding microphones to recording equipment, also to increase the input channels of existing amplifiers.

This compact and smartly styled pre-amplifier and mixer will be a solution to any problems calling for additional input channels to be installed quickly and easily.

SPECIFICATIONS: Input impedance 500,000 ohms, output impedance 500,000 ohms,

TUBES: 4-6SJ7, 1-6SF5, 1-5W4.

SIZE: 14-1/16" x 8" x 7 7/8" high.

MODEL HH complete with tubes.

Price **\$49.50**

MODEL LLO BROADCAST MIXER AND PRE-AMPLIFIER

Built to conform to the strictest requirements of broadcast equipment, this pre-amplifier embodies four low impedance input channels, each with separate gain control. Each input is tapped at 50-125-200-500 ohms. A master gain control is included along with a built in DB level meter. Low impedance output of 50-125-200-500 ohms is available at zero level.

Built in power supply is absolutely humless.

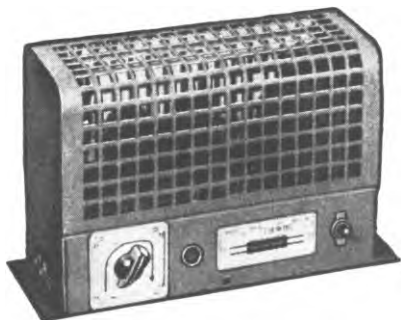
The Model LLO is made available for the discriminating buyers who require precision equipment combined with smart styling.

SIZE: 14-1/16" long x 8" deep x 7 7/8" high.

TUBES USED: 4-6SJ7; 1-6SF5; 1-6C5; 1-5W4.

MODEL LLO with matched tubes. Price **\$174.50**

STRAIGHT LINE EXPANDER



MODEL VE2 VOLUME EXPANDER

An expander is used to restore the original dynamic range when playing recorded music. This unit expands or amplifies passages that were compressed during the actual recording due

to physical limitations. This expander creates illusions of musical grandeur and depth not found in ordinary reproduction.

This latest Bogen development is the long sought after answer to this true expansion. Operating on an entirely new method—it eliminates all the previous difficulties found in expanders—as distortion and time lag. Using what is known as straight line expansion, for any type of musical reproduction—either from symphonic or dance records. Requires no critical adjustment—is instantaneous in operation with absolutely no time lag or chopping effect.

Completely revolutionary in operation, this expander is the same as the one embodied in the EX70 except that the Model VE2 is offered as a compact unit for connection to any amplifier for record reproduction. Complete with its own built in power supply, expansion control A. C. switch and indicator light and housed in a smartly styled gray wrinkle case 9 x 4 x 6 1/2 high.

TUBES USED: 1-6SF5; 1-6L7; 1-6H6; 1-5W4.

MODEL VE2 complete with tubes. Price **\$35.00**

MODEL 42 POWER LEVEL INDICATOR



OUTPUT AND RECORDING LEVEL METER

A reasonable priced, high quality power level indicator, output meter and recording level meter. The Model 42 Output meter is a complete new measuring instrument equipped with an accurately calibrated pad in steps of 3 db. For added flexibility, a separate recording level range is also included for recording applications. The instrument is ideal for measuring the output level of amplifiers for Public Address, Theatre Equipment, Broadcast Studios, Recording

Studios, Speech Equipment, etc. Readings can be made up to 240 watts. A built-in multiplier, sets zero on the meter scale to plus 17, plus 29, plus 32, plus 35, plus 38, and plus 41 db. The overall range is from plus 7 db. to plus 46 db. Zero reference level is .006 watts (6 milliwatts) at 500 ohms. Supplied in streamlined modern case with square faced 3" meter, medium damped, and finished in smart gray wrinkle. Complete with set of alligator test leads and translation chart.

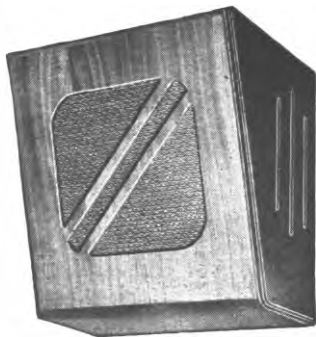
MODEL 42 — Output meter. **\$25.00**
Price

Baffles-Remote Control-Phono Assembly-Trumpet Stand

BOGEN WALNUT BAFFLES

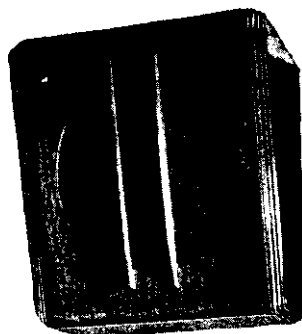
A new, complete line of walnut baffles for wall mounting, priced to meet the many calls on indoor sound installations where attractive baffles are needed to harmonize with the surroundings. All models are built of selected hardwood veneers beautifully finished with high luster lacquers to enhance the natural wood grains. Inclined front panels insure proper sound distribution and side vents are provided to permit correct release of speaker pressure, thereby improving the quality of reproduction.

Each baffle supplied with complete mounting hardware.



BOGEN DELUXE WALNUT SPEAKER BAFFLES

For installation where the finest type of equipment is desired Bogen deluxe walnut baffles are recommended. These baffles are beautifully designed walnut speaker housings heavily reinforced throughout and equipped with side vents to insure proper release of speaker backlash. Front panels are of fine grain walnut veneers with raised grille bars and silk screen over the speaker opening. Beautifully finished with high luster lacquer. These deluxe baffles present an appearance which will blend harmoniously in the most exacting surroundings. Reinforcing inner baffles are available for the Model W12 Baffle, which permits mounting 10 or 12" speakers without the mounting screws becoming visible on the front panel.



- MODEL W12 Deluxe Baffle** (For 10" or 12" speakers)—Dimensions: 18" high, 16" wide, 11" deep. Price **\$9.50**
- NUMBER 553**—Reinforcing Inner Baffle for 10" speakers. Price **\$.75**
- NUMBER 554**—Reinforcing Inner Baffle for 12" speakers. Price **\$.75**
- MODEL W8 Deluxe Baffle** (For 8" speakers)—Dimensions: 11" high, 10" wide, 5½" deep. Price **\$5.25**
- MODEL W6 Deluxe Baffle** (For 6" speakers)—Dimensions: 8½" high, 8¾" wide, 4" deep. Price **\$4.25**

Model	Speaker Accommodations	Dimensions			Price
		Width	Height	Depth	
BA12	12-inch	14¾"	15"	10½"	\$7.50
BA10	10-inch	12¼"	14"	8½"	5.75
BA8	8-inch	10½"	11¼"	6½"	4.25
BA6	6-inch	7½"	8"	5"	3.25

NOTE: Many Bogen amplifiers come equipped with built-in provision for Remote Control operation. Those models listed without this feature can be obtained with built-in provision for remote control,

if specified, at an additional cost of \$5.00. All Bogen amplifiers so equipped can be operated with either the Bogen Wireless or Wired types of Remote Control.

MODEL SR WIRED

The Model SR Remote Control is ideal for remote control operation of any Bogen amplifier, particularly in installations where the remote control can be installed permanently. The Model SR is completely self-contained and requires no external source of power.

The Remote Control unit is extremely compact and equipped with two gain controls. These controls permit the operator to control volume and mix any two channels of a Bogen amplifier, such as two microphone channels, or one microphone and one phono.



REMOTE CONTROL

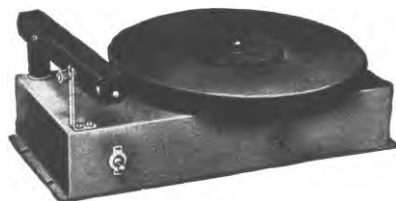
The Model SR Remote Control is not subject to inductive hum pickup in the cable or unit as are other types of wired Remote Controls. In addition, the SR Remote Control can be used with 1000 or 2000 feet of cable with negligible loss and long lengths of cable do not affect the tone quality of the amplifier.

- MODEL SR REMOTE CONTROL**—Complete—less cable. Price **\$6.75**
- MODEL RC50**—50 ft. cable and plugs for Model SR Remote Control. Price **\$2.50**
- No. 1103**—Three Conductor Remote Control cable only for SR Remote Control. Price—per 100 feet **\$4.00**

SPEAKER FLOOR STANDS

Equipped with heavy cast base 20" in diameter. Base has three projecting feet on bottom to balance on uneven floors. Height adjustable from 5 ft. to 9 ft. Furnished with heavy lock clamps for height adjustment. Finished in black shivel. May be used with all BOGEN-University trumpets and parabolics. Price **\$17.50**

Mounting Flange and Nipple — A 3" diameter flange with 3" long pipe with ½ pipe thread on extended end. May be used for mounting any Bogen University trumpet or Parabolic Model MF3. Price **\$.60**



MODEL PT PHONO ASSEMBLY—is a compact A. C. phono turntable, equipped with an Astatic S8 crystal Pickup and housed in a metal casing which may be secured on the top of most amplifiers. The PT Phono will therefore quickly convert most amplifiers into complete A. C. phono amplifier units. All connections are plug in type.

DIMENSIONS: 12½" long, 5¾" wide, 2¼" high. **\$19.95**
Model PT — 110 V. A. C. Price

Erwood SOUND EQUIPMENT

Erwood

MODEL No. 1312 — 12 WATT PORTABLE PUBLIC ADDRESS SYSTEMS

Styled like airplane type hand luggage this low priced system is distinguished for its superb reproduction. Ample reserve capacity provides "big-system" volume without over-load, distortion or blasting.

APPLICATION: Adapted to smaller installations of not over 1000 persons in such places as assembly halls, churches, night clubs, bingo games, funeral parlors, etc. Exceptionally fine record reproduction is possible when used with our No. 101 record player.

FEATURES: Model No. 1312 is a portable system contained in a compact and durable carrying case with a heavy tweed covering. Ample space is provided for substantially mounting the speakers, amplifier, microphone, all cables, and a full length floor stand. The same precision and care has been exercised in the manufacture of this equipment that is so evident in our larger and more expensive equipment.

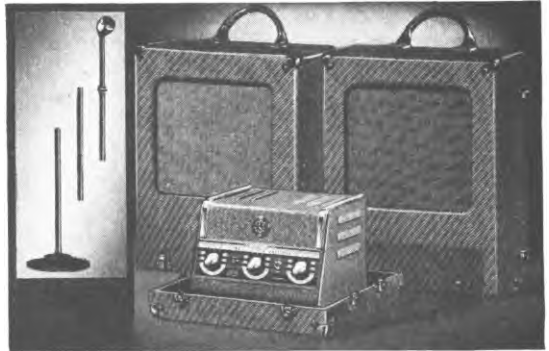
AMPLIFIER SPECIFICATIONS

Power Output: 12 Watts. **Gain:** Microphone 119 D.B. Phonograph 75 D.B. **Controls:** One microphone, one phono, one tone control and ON and OFF switch. Provision is also made for remote control of microphone volume. **Input Impedance:** Two megohms for microphone and one-half megohm for crystal pickup. **Tubes:** Five required, consisting of: 1-6J7G; 1-6Y7G; 2-6V6G; 1-5V4G. **Output Impedance:** 3-4 and 6-8 ohms. **Power Consumption:** 86 Watts. **Dimensions:** 7" x 8" x 11". **Amplifier** is equipped with 6 ft. A.C. cord and plug.

MICROPHONE: Model 150-A is a streamlined high impedance crystal having an output of -52 D.B. The response is free from objectionable peaks or dips. The crystal cartridge is cushion mounted to prevent floor and stand noises in reproduction. Finish is a beautiful gray and chrome combination. The microphone is furnished complete with floor stand and 25 feet of SRC cable and plug.

SPEAKERS: Two 8-inch permanent magnet type speakers complete the system. They have a speaker voice coil diameter of 1 inch. The magnetic structure contains 11 ozs. of magnetic material per speaker. Both speakers are equipped with 25 feet of rubber covered cable and plug.

Model 1312-PC comprises complete portable system, consisting one Model 1312 Amplifier, one Model 150-A Crystal Microphone with floor stand and 25 feet of cable, two Model 108 Permanent Magnet Speakers with 25 feet of cable and plug, and one Model C-3 Portable Carrying Case. **List Price: \$112.80.** **Shipping Weight:** 55 lbs. **Code: PACKS.** **Model 1312 Amplifier only, less tubes, List Price: \$41.50.** **Shipping Weight:** 22 lbs. **Code: ABASE.** **Kit of Matching Tubes: \$6.00.** **Shipping Weight:** 2 lbs. **Code: TABOO.**



plug, and one Model C-3 Portable Carrying Case. **List Price: \$112.80.** **Shipping Weight:** 55 lbs. **Code: PACKS.** **Model 1312 Amplifier only, less tubes, List Price: \$41.50.** **Shipping Weight:** 22 lbs. **Code: ABASE.** **Kit of Matching Tubes: \$6.00.** **Shipping Weight:** 2 lbs. **Code: TABOO.**



Erwood MODEL No. 2418

18 WATT PORTABLE PUBLIC ADDRESS SYSTEM

- Dual Speakers • One or Two Floor Stands and Microphones
- Remote Control (Optional) • Edge Illuminated Non-Breakable Dial • Single Case Construction.

APPLICATION: For all temporary or semi-permanent installations, most particularly adapted to traveling orchestras, road shows, religious activity and other applications for crowds up to 3000 persons.

AMPLIFIER: Is a model 2418—18 watt power amplifier of exceptional range and power handling capacity. Two microphones can be used simultaneously with perfect control over each microphone. The gain of the amplifier is sufficient to (125 DB) effect pickup by the microphone over a wide area. A tone control per its modification of the reproduction to meet local conditions. Controls are located on a beautiful edge illuminated non-breakable dial which is easy to see in a dark room. The amplifier is of substantial construction housed in an attractive steel case finished in deep maroon, and chrome trimmed.

MICROPHONES: Model 151A uni-directional microphones are furnished with this system. Their excellent frequency characteristic extends from 30 to 10,000 cycles, and while very sensitive to the front, are relatively insensitive to sounds from the rear, a characteristic which is highly desirable for public address installations. Each microphone is furnished with 25 feet of special shielded cable and polarized plug. The head is tilting and is finished in satin chrome. Microphones are furnished with a three piece sectionalized floor stand.

LOUD SPEAKERS: This system is furnished with two model 120 permanent magnet speakers having a diameter of 12 inches and a power handling capacity of 12 watts. The voice coil and cone structure is particularly adapted to the baffles to which they are mounted. Each speaker is provided with 25 feet of rubber covered cable and polarized plug.

PORTABLE CARRYING CASE: The Model C4 portable carrying case is of three piece construction. The lower section functioning as a compartment for carrying the amplifier. The upper sections are of trapezoidal construction and contain the speakers, microphones and microphone stands. In which use, they function as the loud speaker baffles and provision is made for securing them to the wall.



Model 2418-P2C is a complete system comprising a 2418 amplifier less tubes, two No. 151A microphones with cords, plugs and floor stands, two No. 120 permanent speakers with cords and one No. C4 portable carrying case. **List Price: \$208.00.** **Shipping Wt.: 78 lbs. Code: PORTS.**

Model 2418-P1C. Same as above except with one microphone and one stand. **List Price: \$163.50.** **Shipping Wt.: 67 lbs. Code: 1'00LS.** **Kit of extra sound tubes, for Model 2418 amplifier, List Price: \$8.20.** **Shipping Wt.: 2 lbs. Code: TALCS.**

Model 2418. Amplifier only, less tubes. **List Price: \$56.00.** **Shipping Wt.: 31 lbs. Code: ABYSS.**

Erwood

MODEL No. 3428 28 WATT AMPLIFIERS

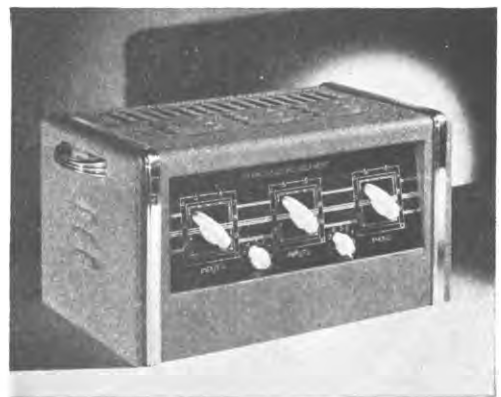
Housed in a metal cabinet of unusual beauty, this new design exceeds its rating by a substantial margin. This increased margin guarantees high quality performance without distortion at levels considerably in excess of the rating. The three inputs accommodate two microphones and a phonograph. In our opinion, this amplifying system will be most talked about because of its unusual dynamic range and tone quality.

APPLICATION: A well-balanced engineered system capable of exceptional performance. Well adapted to use in auditoriums, theatres, schools, churches and other public gathering places. Provides perfect reproduction for audiences of 4000 or for auditoriums of 1,000,000 cubic feet.

FEATURES: Model 3428 amplifier permits the use of two microphones and a phonograph input in a multiple mixing circuit. Extra refinement in circuit design reduces noise and hum to new low levels only attained in expensive recording amplifiers. Provision is incorporated for the use of a two-position remote control unit. Two tone controls permit perfect balancing of reproduction to auditorium requirements.

AMPLIFIER SPECIFICATIONS

Power Output: 28 Watts. **Gain:** Microphone 130 DB. Phonograph 75 DB. **Controls:** Two microphone volume controls, one phonograph volume control, one high frequency control, one low frequency control, and an ON and OFF switch. Remote control attachment optional. **Input:** Two, two-megohm for microphones and one-half megohm for phonograph. **Tubes:** Eight required, consisting of: 2-6J7; 2-6C5; 2-6L6; 1-5V4; 1-6N7. **Output Impedance:** Four, eight, two hundred and fifty and five hundred ohms. **Current consumption:** 125 Watts. **Dimensions:** 3' x 3' 9 1/2" x 14 1/2".



No. 3428 amplifier only, less tubes, List: \$75.00. **Shipping Wt.: 38 lbs. Code: ABBEY.** **Kit of matched tubes for Model 3428 amplifier, List: \$8.55.** **Shipping Wt.: 2 lbs. Code: TABBY.**

Erwood SOUND EQUIPMENT

Erwood MODEL No. 1420 — 20 WATT MOBILE PUBLIC ADDRESS SYSTEM



Designed and engineered by the originators of Mobile Public Address Systems, Model No. 1420 provides in simple compact equipment a dependable combination of 6-volt and 120-volt services. Primarily designed for mobile services, the ease with which this model may be transported makes it desirable for general public address applications.

APPLICATION: Suitable for outdoor crowds of 2,000 or more people, with corresponding greater indoor capacity. Suitable for civic celebrations, sports announcements, orchestral broadcasting, etc.

FEATURES: Will operate on either standard 120-volt A.C. power line or 6-volt storage battery. Facilities for one microphone. Self-contained record playing mechanism for phonograph record reproduction. Hum and other noises generally associated with mobile equipment have been eliminated by special Erwood extra shielding and filtration. High quality crystal pickup and noiseless rim drive turntable motor. Amplifier is equipped with 7 tubes operated well within manufacturers' ratings to eliminate tube trouble. Reproduction is excellent with ample capacity for extra power and stepped-up quality performance when required. Well designed ventilation. Accessibility has been stressed in this model.

AMPLIFIER SPECIFICATIONS

Power Output: 20 Watts. Gain: Microphone, 129 DB. Phonograph, 73 DB. Controls: One microphone, phonograph, tone control, ON and OFF switch, and a standby switch. Input: For one microphone. Tubes: Seven required, consisting of: 1—6J7, 2—6N7, 2—6L6, 2—6X5. Output Impedance: Four, Eight, Two Hundred Fifty and Five Hundred Ohms. Power Consumption: 130 Watts AC, 20 Amperes, DC. Dimensions: 16" x 16" x 12". Shipping Weight: 42 lbs.

MICROPHONE: Because of particularly durable construction, Model 156C crystal microphone is included with these systems. Microphone has a wide frequency range, is sensitive over a wide angle of pickup. Particularly adapted to the rough usage of outdoor work and frequent handling. Frequency ranges flat output level.—62 DB. Microphone is furnished complete with 25 feet of RCS cable, plug and handle.

SPEAKERS: Two No. 120—12" permanent magnet speakers are included with this system. The magnetic structure of these speakers uses 21 ounces of magnetic material. They have a power handling capacity of 10 watts per speaker. Speakers are furnished with 25 feet of cable and plug.

System 1420M comprises one 1420 high fidelity amplifier, one 156C crystal microphone with 25 foot cable and plug and two 120—12" permanent magnet speakers, with 25 foot cables and plugs. List: \$154.00. Shipping Weight: 55 lbs. Code: SAGES. Kit of matched tubes. List \$7.80. Shipping Weight: 2 lbs. Code: TABLE.

Erwood MODEL No. 3545 45 WATT AMPLIFIER



For the elaborate and exacting requirements of the "big installation," this system has been designed to embrace every modern improvement known to sound. In every respect it can be depended upon to meet every expectation.

APPLICATION: Adopted to larger installations requiring multiple microphone, where the stage presentation covers considerable area—automatic volume control greatly improves the pickup of the system and helps to eliminate feedback. Will handle crowds up to 10,000 persons under the most adverse conditions.

FEATURES: Model 3545 amplifier combines automatic volume control for microphones, volume expansion for record reproduction, remote control for the three microphone positions permits monitoring the program from a remote position. High and low tone compensation permits adapting the equipment to troublesome acoustical conditions. Uses a new circuit with two power transformers, variable output impedance switch, locking type input plugs.

AMPLIFIER SPECIFICATIONS

Power Output: 45 Watts.
Gain: Microphone 130 DB, Phonograph 75 DB.
Controls: Three microphone volume controls, one master gain control, one combination volume control, one low frequency control, one ON and OFF switch.
Input Impedance: For microphones, two megohms; for phonograph, one-half megohm.
Tubes: Fourteen required, consisting of: 4—6J7G, 2—6N7G, 1—6L7G, 1—6F6G, 1—6H6G, 2—6L6G, 1—5U4G, 1—83.
Output Impedance: Four, Eight, Two Hundred Fifty and Five Hundred Ohms.
Current Consumption: 320 Watts.
Dimensions: 8 3/4" x 11" x 18".

No. 3545—Amplifier Only.....List \$132.50

Shipping Weight: 55 lbs. Code: APPLE.

Kit of matched tubes for Model 3545 Amplifier.

List: \$12.85. Shipping Weight: 4 lbs. Code: TUBES.

Erwood MODEL No. 101 PHONOGRAPH UNIT



Model No. 101 phonograph unit is a record playing device for either ten or twelve inch phonograph records and it comprises a 78 R.P.M., rim drive phonograph motor with a ten inch flock covered turntable. The phonograph pickup is of the off-set arm type with a crystal cartridge. Output for 500,000 ohm load.

The equipment also includes a six foot power cord, a six foot shielded input cord and a gain control with an attached ON and OFF switch. The entire assembly is enclosed in an attractive portable case with a tweed covering. Dimensions 7" x 13" x 13". Shipping Weight 13 lbs. List Price: \$29.50. Code: PHONO.

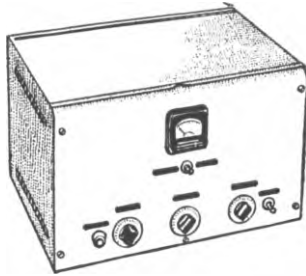


Original Circuits! Modern Designs! Easy to Construct!

20 Watt CW Beginner's Transmitter

Designed primarily for the beginner, the crystal-controlled 20 watt code transmitter operates on all bands from 160 to 10 meters. If higher power is desired at some later date, this unit may also be used as the crystal oscillator of a larger multi-stage transmitter. A low impedance link is provided to couple the transmitter to a doublet antenna or to an antenna matching network. A pilot lamp in the negative high voltage lead is used as an inexpensive yet effective tuning indicator. Simplicity of construction and ease of operation make this an ideal unit for the new amateur, enabling him to get on the air with small initial investment. Chassis dimensions, 8 1/2" x 6" x 2 1/2".

T-22K03 20 Watt CW Unit, Kit of Parts \$22.50 List
Includes all parts except coils, phone plug, crystal and tubes.



35 Watt Phone-CW Transmitter

Mounted in a modern, attractive cabinet, this compact transmitter is capable of 35 watts input on either CW or phone. The power supply and audio section are mounted on the same chassis with the r.f. section. The plug-in coil feature adds to the desirability of this transmitter for the amateur who wants low power on the five amateur bands. All controls are on the front panel for ease of operation. R.F. tubes used include 6V6-G harmonic oscillator and 6L6-G final amplifier. The carbon microphone which is required derives its exciting current from the power supply bleeder and is used to drive a 6A6 speech amplifier, which in turn excites a Class B modulator. A variable link is used to couple the transmitter to the antenna. Overall cabinet dimensions 9 1/2" x 7" x 2".

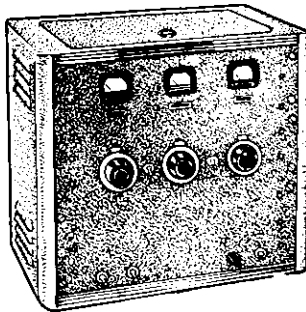
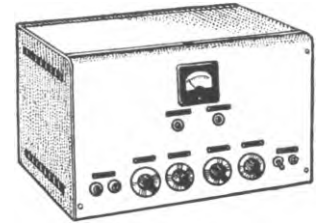
T-22K37 35 Watt Phone-CW, Kit of Parts \$72.50 List
Includes all parts except coils, meter, crystal and tubes.

12 Watt Universal Transmitter

For Portable and Emergency Service

This 115 volt A.C. or 6 volt D.C. transmitter is one of the most popular of the entire group because of its extreme flexibility. Merely inserting the proper power plug changes the circuit from A.C. to D.C. Maximum power input is 12 watts on battery operation and slightly more when operated on an A.C. line. This transmitter can be operated on all amateur bands from 160 to 10 meters, and doubling may be accomplished in the crystal stage when using 160, 80 and 40 meter crystals. A 6V6-G oscillator tube is used in a regenerative type circuit having an r.f. choke in the cathode circuit. Final stage uses an 807 tube. The modulator tube is a 6V6-G operating Class A and the audio amplifier section consists of two 6J7 tubes, pentode connected, providing ample gain for operation with a crystal microphone. Overall cabinet dimensions 9 1/2" x 7 1/2" x 2".

T-22K13 Portable Emergency Transmitter, Kit of Parts \$71.50 List
Includes all parts except vibrator, meter, coils, crystal and tubes.



55 Watt Phone, 80 Watt CW Transmitter

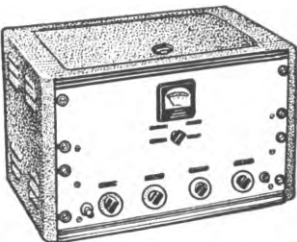
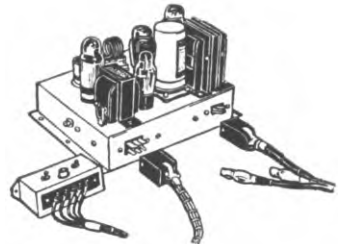
This Thordarson transmitter, expertly engineered and designed for either 55 watt phone or 80 watt CW operation on 160 to 10 meters, is built with independent audio and r.f. sections. Each section has its own power supply and may be used separately. The r.f. plate supply uses a 6Z3 and two 866JR tubes. The power supply on the modulator chassis uses a 6Z3. A gain of 122 db permits operation of the transmitter with any of the popular types of high impedance microphones. The 6L6-G modulator tubes, operating Class AB₁, fully modulate the 55 watt Class C input. Speech amplifier tubes: 6J7, 6J7, 6C5, 2-6L6-G's. R.F. tubes; 6F6-G oscillator, 6L6-G buffer or doubler, and 809 final amplifier stage. Individual kits for r.f. and modulator sections. R.F. chassis dimensions 17" x 12" x 4". Modulator chassis dimensions 17" x 10" x 2". Complete cabinet dimensions 19 1/2" x 21" x 13 1/2".

T-22K71 R.F. Section, Kit of Parts \$93.00 List
Includes all parts except coil forms, cabinet, meters, plug-in condenser, jack base, crystal and tubes.
T-22K73 Modulator Section, Kit of Parts \$58.50 List
Includes all parts except tubes and cabinet.

12 Watt Mobile Transmitter

Many extra hours of operating enjoyment on the 5 and 10 meter bands can be had with this new Portable Mobile transmitter. It is carefully designed to withstand the vibration to which a mobile unit is often subjected. It operates from a 6 volt storage battery and uses a vibrator power supply that can be remotely controlled quite a distance from the transmitter. All modern improvements are included for simplified operation under all conditions. R.F. tubes used include: 6V6-G tri-tet crystal oscillator and T-21 final amplifier. A single 6V6-G operates as a Class A amplifier to modulate the T-21 tube. Provision is made for remotely connecting a carbon microphone to the primary of the microphone transformer mounted on the under side of the chassis. Chassis dimension 11" x 8" x 3".

T-22K11 12 Watt Mobile Unit, Kit of Parts \$62.00 List
Includes all parts except vibrator, crystal and tubes.



50 Watt 5 & 10 Meter Phone Transmitter

Unusually compact, this 5 and 10 meter phone transmitter contains in a single unit a 50 watt r.f. and 25 watt modulator section, together with their respective power supplies. R.F. tubes used include 6L6-G tri-tet oscillator, HK-24 doubler, and HK-24 final amplifier. The speech amplifier is designed to permit the use of either a high impedance dynamic or crystal microphone. The modulator consists of a pair of 6L6-G tubes operating in Class AB₁. Panel fits a standard 19" relay rack. When used with the modern streamlined grey cabinet, it presents a most attractive and efficient-looking job. A single meter in conjunction with a meter switch measures the oscillator plate, buffer plate, final grid, and final plate currents. Chassis dimensions 17" x 13" x 3". Cabinet dimensions 12 1/4" x 20 1/2" x 13 1/2".

T-22K51 50 Watt 5 & 10 Meter Unit, Kit of Parts \$126.00 List
Includes all parts except cabinet, meter, crystal and tubes.

#344 Transmitter Guide—15c postpaid—full descriptions and instructions on building Amateur Radio equipment, including transmitters from a 20 watt CW to a kilowatt.



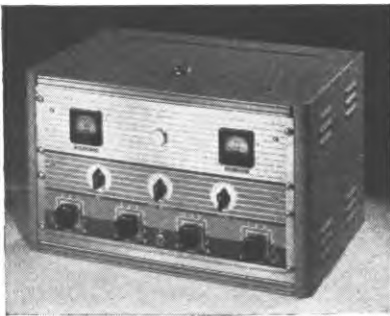
7-30W04 Pre-Amplifier \$125.00 List
With Selected Tubes, Without Cabinet

This fine pre-amplifier is the basic unit for low or high power sound installations. It is designed to operate into a 500 ohm line at 0 db or 6 milli-watts with less than 1% distortion. Has three low level inputs for high impedance microphone with provision for low impedance input transformers. In addition two medium level inputs are incorporated for high impedance crystal or magnetic phono pickup. Two frequency equalizers provide independent boost or attenuation for either bass or treble. Exceptional low hum level (70 db below +32 db normal output rating). Dimensions, 19" long, 8 3/4" high, 7 1/2" behind back of panel including tubes. Shipping weight 27 1/2 lbs.



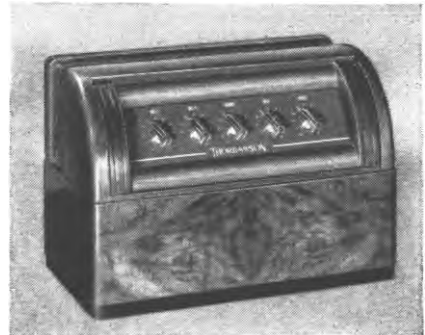
7-30W25 Booster Amplifier, 25 Watts \$ 85.00 List
7-30W50 Booster Amplifier, 50 Watts \$110.00 List
With Selected Tubes, Without Cabinet

These boosters may be used to meet any power requirement from 25 watts up and may be used singly or in multiple. A bridging input transformer is provided to couple to the output of the preamplifier. Used with T-30W04 as many as 18 booster units may be connected without upsetting line characteristics. An individual gain control provides proper distribution where the installation is both indoor and outdoor. Chassis is mounted with bottom parallel to front panel which may be removed for inspection without removal from cabinet or rack. Frequency response $\pm 1/2$ db. from 20 c.p.s. to 15000 c.p.s. and hum and noise level is 80 db. below output rating. Dimensions: 19" long, 8 3/4" high and 8 1/4" deep. Shipping weight T-30W25 — 32 1/2 lbs. T-30W50 — 40 1/2 lbs.



7-30W10 True-Fidelity Studio Amp. \$261.50 List
(For relay rack installation, with selected tubes, less cabinet)
T-30W10 With cabinet and selected tubes. . \$282.50 List

Highest quality amplification of speech or music is the prime feature of this fine studio amplifier. Parts and circuits are carefully chosen to assure frequency response of ± 1 db. from 30 to 15000 c.p.s. Two frequency equalizers provide independent boost or attenuation of either bass or treble registers. Hum and noise level is 70 db. below the conservative 10 watt rating. Input circuits include one microphone input for low or high impedance microphones and two medium level inputs for low or high impedance phonograph pickup or line. Dimensions, 19" long, 13 3/4" deep, 10 1/2" high. Shipping weight, 62 lbs.



7-25W30 Amplifier, 30 Watts . . . \$117.50 List
With Selected Tubes

This 30 watt amplifier features a matched burl walnut cabinet and edge glow illuminated panel. Three high impedance input circuits provide for two microphones and one phono pickup. Amplifier is designed to supply power to one to four speaker fields or equivalent of 26 watts. Has special four stage circuit using inverse feedback principle. Dimensions 15 1/4" long, 8 1/4" deep, 10 3/4" high. Shipping weight, 34 lbs. T-20K27 Portable Amplifier Case for this 30 watt amplifier \$13.00 List. Space provided for mike and cables.

CARRYING CASES

7-20K23 Regular Twin Portable Speaker Case (less speakers) . . . \$21.00 List

Regular twin portable speaker case for two 12 electro-dynamic or permanent magnet speakers. Speakers mount in sides of case which opens diagonally for greatest efficiency. Dimensions (assembled): 16" wide, 20" high, 12" deep. Weight: net, 10 pounds, shipping, 17 1/4 pounds

7-20K24 Bass Reflex Twin Portable Speaker Case (less speakers) . . . \$27.00 List

Bass reflex twin speaker portable case for two 12 electro-dynamic or permanent magnet speakers. The bass reflex principle insures good bass reproduction with a comparatively small speaker baffle. The low frequency ports near speaker openings may be used to store speaker cable when assembled. Dimensions (assembled): 18" wide, 22" high, 16" deep. Weight: net, 22 1/2 pounds; shipping, 30 pounds.

7-25K29 Combination Amplifier Speaker Case (less speakers) . . . \$17.00 List

Three section case designed to carry the 14 or 20 watt amplifier and two 10" speakers. Racks provided for cables. Finished in grey luggage covering. Dimensions 18" wide, 21" high, 12 1/2" deep. Weight: net, 14 pounds; shipping, 20 pounds.

7-20K26 Portable Speaker & Amp. Case \$14.50 List

The portable combination amplifier and speaker case is finished in attractive grey luggage covering and is fitted with a removable sub-base for mounting a T-30W08 amplifier. The bass reflex principle is maintained by the port located below the speaker opening in the front of case. An 8" electro-dynamic or permanent magnet speaker is required. Hooks and a strap provide for mounting speaker cable and hand microphone. Dimensions: 12" wide, 16 1/2" high, 8" deep. Weight: net, 7 pounds; shipping, 13 1/2 pounds.



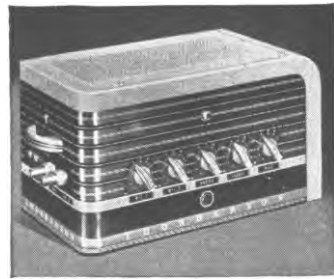
Amplifiers

THORDARSON



7-25W14 Amplifier, 14 Watts . . . \$62.50 List
With Selected Tubes

Although this 14 watt is the smallest of the "Jewel-in-Steel" amplifiers, the same high standard of Thordarson quality and workmanship is incorporated in its manufacture. The brushed steel panel contains controls for one high impedance microphone and one high impedance phono pick-up in addition to the tone control and switch. Frequencies below 100 c.p.s. are accentuated to compensate for loss of low tones in speakers and other accessories. Output switch adjusts for voice-coil or line impedances. Dimensions, 13½" long, 7½" deep, 7¼" high. Shipping weight, 22 pounds.



7-25W20 Amplifier, 20 Watts . . . \$82.50 List
With Selected Tubes

This "Jewel-in-Steel" amplifier has set a new pace in style and quality. Full 20 watts output is delivered with less than 5% distortion. Input circuits accommodate two high impedance microphones and one phono pick-up. A multi-stage inverse feedback circuit reduces distortion and hum to a minimum. Two tone controls permit attenuation of treble or bass frequencies. Frequency response is within ± 1 db from 30 to 15,000 c.p.s. with deliberate bass boost of 3 db below 100 c.p.s. A selector switch provides output impedances of 2, 4, 6, 8, 250 or 500 ohms. Dimensions, 14½" long, 7½" deep, 7¼" high. Shipping weight, 25 pounds.



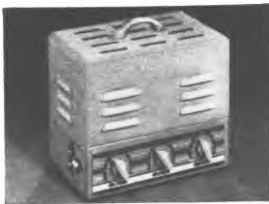
7-30W30 Amplifier, 30 Watts . . . \$122.50 List
With Selected Tubes

This 30 watt amplifier is ideal for installations requiring slightly more power and better than average quality. It is provided with three high impedance microphone circuits adaptable to low impedance at \$14.50 additional per circuit. Two phono pick-up circuits operate into the dual fader control. Bass or treble frequencies can be attenuated with the two tone controls. A selector switch provides impedances of 3, 4, 6, 8, 16, 125, 250 and 500 ohms for matching speakers and lines. Output connections are made by means of two connectors and screw terminals. Dimensions, 17" long, 9½" deep, 8½" high. Shipping weight, 36 pounds.



7-30W55 Amplifier, 55 Watts . . . \$175.00 List
With Selected Tubes

Unusual flexibility is provided in this 55 watt amplifier by a multiple mixer circuit accommodating four microphones and two phono pick-ups. Microphone circuits available with low impedance input transformers at slight additional cost (30-50, 200-250 or 500 ohms). New dual tone control makes possible increase or decrease of the bass and treble frequencies independently of one another. Four beam power tubes operate in push-pull-parallel to deliver 55 watts output. Long tube life has been made possible by operating the output tubes conservatively. Dimensions, 17" long, 12" deep, 8½" high. Shipping weight, 48 pounds.



7-30W08 Amplifier, 8 Watts \$43.50 List
Less Cover, With Selected Tubes

This 8 watt amplifier is the smallest Thordarson amplifier engineered and manufactured to Thordarson quality standards. Power output is 8 watts with less than 5% distortion. Two high impedance input channels, one for microphone and one for phono pickup. Speaker field supply is sufficient for one 5000 ohm field and a permanent magnet speaker may be substituted or used in addition. Output impedances are 4, 6, 8 and 500 ohms available at 7 contact speaker plug receptacle. Frequency response is within ± 1 db. from 45 to 15000 c.p.s. and hum and noise level is 62.5 db. below 8 watts. A conventional type chassis is furnished in grey wrinkle. Grey metal cover is available as an accessory at \$3.25 list. Dimensions: 10" long, 8" high (with tubes) 6" deep. Shipping weight 16 lbs.



Microphone Cable Transformers . \$14.50 List each

Two types are available — the 30 to 50 ohm unit is for voice coil connection of dynamic microphones and the 200 to 250 ohm unit for dynamic or velocity microphones which have self-contained line output transformers. Magnetic shielding is employed to reduce hum pick-up to a minimum. Dimensions, 1" diameter, 2¾" long, shipping weight ¾ lb.

TECHNICAL DATA

	T-14A75	T-14A76
Primary Impedance	30-50 Ohms	200-250 Ohms
Secondary Impedance	50,000 Ohms	50,000 Ohms
Turns Ratio	1 to 31.6	1 to 14.14
Frequency Response	± 1½ db 30 to 15,000 c.p.s.	± 1½ db 30 to 15,000 c.p.s.



T-30W18 Mobile Amplifier, 18 Watts . \$125.00 List
With Selected Tubes

This universal amplifier is also recommended where efficient battery operation is imperative. All controls, connectors etc. are located on front of amplifier for convenience of operation and installation. Especially suited to be located in front seat of car or truck. Supplied with phono pick-up, turntable and cables for 6 volt battery or 115 volt 60 cycle operation at 18 watts output. Will accommodate one high impedance microphone that can be mixed with the phono pick-up. Selector switch will match 2, 4, 6, 8, 250 or 500 ohm speakers or line. Dimensions 14 3/4" long, 10 1/2" deep, 10 3/4" high. Shipping weight, 36 pounds.



T-25W28 Mobile Amplifier, 28 Watts \$185.00 List
With Selected Tubes

A fine 28 watt universal amplifier operating at full efficiency from both 115 volt 60 cycle current and a 6 volt storage battery. Supplied with phono pick-up and electric turn-table which operates at constant speed (78 R.P.M.) from either battery or line. Accommodates two high impedance microphones in addition to the self-contained phono pick-up. Panel contains tone control and individual microphone and phono controls for complete mixing. Equipped with standby switch to conserve power when operated from battery supply. Dimensions, 17 1/2" long, 14 1/2" deep, 11 3/4" high. Shipping weight, 54 pounds.



T-30W12 Mobile Amplifier, 12 Watts . \$75.00 List
With Selected Tubes

Designed specifically for 6 volt operation only, this amplifier is unusually efficient. Battery drain is held to a minimum to conserve power. A standby switch allows the tube heaters to operate during idle periods permitting instantaneous operation. Various speaker impedances (2, 4, 6, 8, 250, and 500 ohms) are readily matched with a rotary selector switch. One microphone and one phono volume control permit mixing of the high impedance input circuits. The tone control has 23 db. attenuation at 10,000 c.p.s. Dimensions, 13 1/8" long, 7 1/2" deep, 7 1/4" high. Shipping weight, 23 1/2 pounds.



T-31W18 Mobile Amplifier, 18 Watts . \$114.00 List
With Selected Tubes

The characteristics and technical data shown for T-30W18 are fully descriptive of T-31W18 except that T-31W18 is supplied without phono motor and pick-up. An input jack is provided for connecting an external pick-up.

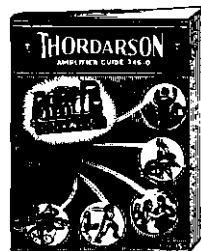
THORDARSON AMPLIFIERS
(Factory Wired and Tested)

The finest amplifiers are built by Thordarson — pioneers in producing quality audio components. Absolute fidelity is assured by accurate laboratory design and rigid inspection during production. New models from 8 to 900 watts satisfy practically every sound requirement. Pre-amplifiers and boosters round out a truly complete line of equipment for sound technicians. Fully described in Catalog 600E including complete technical data and all characteristics and applications. Ask for your free copy today.



No. 346 — Amplifier Guide 15c
Postpaid

P. A. men and experimenters interested in building high quality amplifiers find the Thordarson Amplifier Guide No. 346 a worthwhile source of information. It contains laboratory designed and tested circuits of amplifiers from 8 to 120 watts output. Complete parts list, mechanical chassis drawings, and comprehensive illustrations enable the constructor to obtain superior results with matched transformer and choke components. Data are included for pre-amplifiers, dual tone controls, speaker impedance matching and testing.



AUDIOGRAPH • Sound Systems



18 Watt Amplifier

... two microphone inputs

MODEL A-18C—Eighteen watt, three input amplifier. Has separate volume control for the two microphone inputs and for phono. Dual action tone control provides high and low frequency compensation.

Frequency response flat within 1.5 db from 50 cycles to 10,000 cycles. Output stage, using 6L6Gs in push-pull, rated at eighteen watts with less than 8% distortion—peak output thirty watts.

Advanced circuit design eliminates at least two tubes, with resulting freedom from hum and tube noise—plus lower cost. Uses a dual input 6SC7, true electronic mixing with a second 6SC7, 6N7G power driver, two push-pull 6L6Gs, and a 5W4G rectifier.

Model A-18C Amplifier chassis as described above, less tubes and shield, list..... \$32.50
 S-18 Shield for above, finished in contrasting champagne grey, chrome trim, ivory handle, list..... \$4.00
 T-18 Kit of Tubes for above, list..... \$7.95

18 Watt Portable Systems

MODEL A-18PX—Single Speaker System, including the above amplifier and shield, housed in aero-cord covered two piece carrying case, with heavy duty 8" pm speaker, 25 ft. speaker cable, Type X-2 Crystal Microphone and 20 ft. rubber covered cable—but less tubes and stand, list \$65.00

MODEL A-18DPX—Dual Speaker System, identical to the above, but with two 12" pm speakers and 25 ft. cables, Type X-2 Crystal Microphone and 20 ft. cable etc.—less tubes and stand, list..... \$79.50

Type T-1—Table Stand for above systems, list \$2.00

Type F-1—Adjustable, chrome floor stand, list.. 8.50
 (Deduct \$10.00, if microphone is not desired)
 (Add \$8.00, for Type D-1 dynamic microphone)

18 Watt Fixed Installations

MODEL A-18S—Complete permanent installation for clubs, hotels, restaurants, etc. Above amplifier and shield with one 8" pm speaker mounted in slant front

Type W-3 leatherette covered wall baffle—less tubes and microphone, list \$46.50

Additional 3" pm speaker, mounted in W-3 baffle, for use with above system, list..... \$10.00

Type X-2 Crystal Microphone with 20 ft. rubber covered cable for use with above system (two may be used) list \$10.00

Type D-2 Dynamic Microphone with 20 ft. cable, list \$18.00

T-18 Tube kit for A-18 systems, list..... \$7.95

...VALUE SENSATION!

8 Watt Amplifier . . . only \$19.95

Here is the way to low cost sound installations—with full AUDIOGRAPH tone quality and dependability. High gain input channel allows use with any modern microphone. Phono input channel permits recorded music to be mixed with microphone pick-up. Dual action tone control provides high and low frequency compensation. Tubes used are one dual triode 6SC7, one 6N6G and one 80 rectifier.

MODEL B-8C Amplifier as described, less tubes, list \$19.95

T-8 tube kit for above, list..... \$3.45

MODEL A-8PX PORTABLE SYSTEM, above amplifier in new lacquer finished carrying case, 3" pm speaker, 15 ft. speaker cable Type X-3 Crystal Microphone and 7 ft. cable, combination hand and table stand, less tubes, list \$43.00

(Deduct \$8.00 if microphone and stand are not desired)

MODEL A-8S SYSTEM illustrated on right, with above amplifier and 8" pm speaker mounted in W-3 slant front leatherette wall baffle, but less tubes and microphone, list \$29.95

X-3 Crystal Microphone with hand stand, for above system, add list \$8.00



AUDIOGRAPH • Sound Systems

30 Watt Amplifier

... four microphone inputs

MODEL A-30C—Thirty watt amplifier chassis, with five input channels, allowing four microphones to be operated simultaneously, independent control for each. Front panel has dual action tone control, affording both high and low frequency compensation.

Conservatively rated at 30 watts output with less than 8% distortion, peak power 40 watts. Response flat within 1 db. from 50 cycles to 10,000 cycles. Uses two 6SC7 dual input tubes, a 6SC7 electronic mixer, a 6N7G power driver, two 6L6G beam power tubes in push-pull, and an 83 rectifier. Output impedances of 2, 4, 8, 166, 250 and 500 ohms are available by means of selector switch.

Model A-30C—Amplifier Chassis as described above, but less tubes and shield, list\$49.00

S-30 Shield for above amplifier, list.....\$4.00

T-30 Tube kit for A-30 amplifier or systems.....\$9.20

PHONO-TOP—The above amplifier, or systems listed below, may be equipped with phono record player built into the top shield, as illustrated in the system shown on the right. Additional cost, list\$25.00



30 Watt Portable System

MODEL A-30PX—Dual Speaker System, including the above amplifier with shield, mounted in aero-cord carrying case, also housing two heavy duty 12" pm speakers, each with 35 ft. rubber covered cable, and the new Type X-2 Crystal Microphone with 20 ft. rubber covered cable, but less tubes and stand, list\$107.50

(Deduct \$10.00 if microphone is not desired— add \$8.00 if dynamic microphone is desired)

Type T-1 Table Stand for above microphones, list\$2.00

Type F-1 Floor Stand for above microphones, list\$8.50

30 Watt Fixed Installation

MODEL A-30S—Complete system for permanent installation, including the above amplifier and shield, plus two heavy duty 12" pm speakers, each mounted in Type W-2 slant front baffles, covered in brown leatherette — but less tubes and microphone, list\$85.00

Additional 12" pm speaker, mounted in W-2 wall baffle, for extension of the above system, list.....\$16.00

Type X-2 Crystal Microphone for above system, with 20 ft. rubber covered cable, list.....\$10.00

D-1 Dynamic Microphone for above system, with 20 ft. cable, list\$18.00

60 Watt Amplifier . . . four microphone inputs



MODEL A-60C—Super power amplifier, to fill huge halls and stadiums. Has five input channels, allowing separate control of each microphone. Dual action high and low frequency tone compensating control.

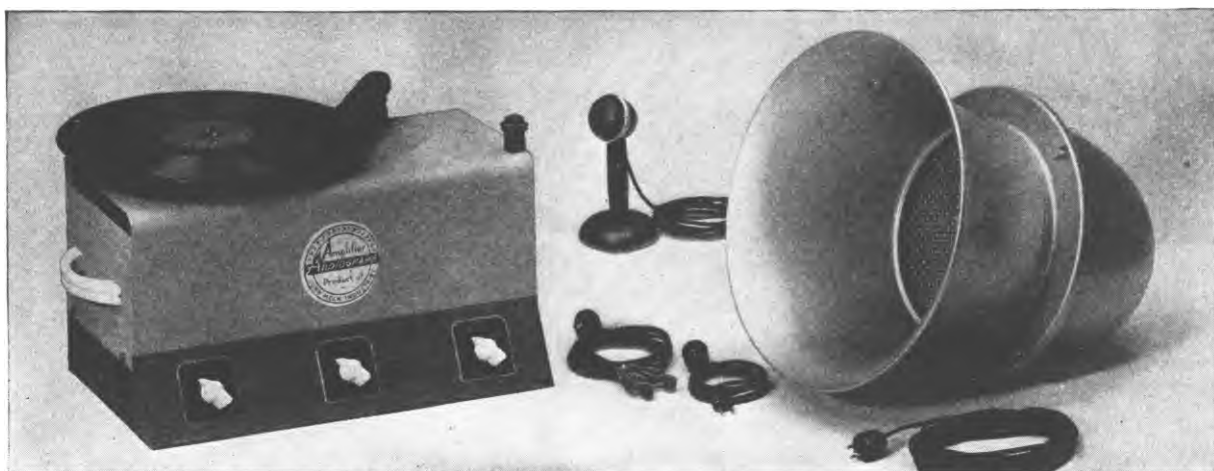
Tubes used are two dual input type 6SC7, a 6SC7 electronic mixer, a 6N7G power driver, four 6L6G beam power tubes in push-pull parallel output, and two type 83 rectifiers. Two power transformers are used to assure maximum regulation and operating stability. The output transformer alone, weighs 14 lbs. Output impedances of 2, 4, 8, 166, 250 and 500 ohms are available at sockets by a tap switch.

Model A-60C Sixty Watt Amplifier chassis, as described, but less shield and tubes, list.....\$89.00

S-60 shield for the above amplifier, list.....\$5.00

T-60 tube kit for the above amplifier, list....\$13.40

AUDIOGRAPH • Sound Systems



NEW...15 Watt Mobile (6 and 110v) Amplifier ...lowest price ever set for combination battery and a. c. use

6V Battery—110v AC—No external power packs. Changeover by removing battery cable and substituting AC cord.

Full Fifteen Watts Power—Use for mobile truck or to cover large crowds at indoor and outdoor meetings.

Phono Motor and Crystal Pick-up—Plays 12" records with constant speed phono motor and high quality crystal pick-up. Also available without the phono top (see Model AM-15C).

High Gain for any Microphone—The Model AMR-15C chassis has 120 db. gain, ample for full output from any modern crystal, dynamic or velocity microphone.

Mix Phono with Microphone—There are separate controls for microphone, phonograph and tone. This allows recorded background for microphone pick-up. The tone control provides both high and low frequency compensation.

Tubes Used—One 6SJ7 input amplifier, one 6SC7 electronic mixer, two 6V6G push-pull beam power outputs, and a 6X5G rectifier. All circuits operate at voltages within standards specified by tube manufacturers, assuring long tube life.

Output Provisions—Three output sockets are provided, two with 4 ohms for paralleling two 8 ohm speakers, and one 8 ohm for a single speaker.

MODEL AMR-15C Fifteen Watt 6-110v Volt Amplifier, with phono top, complete as described, but less tubes, list.....\$69.50

MODEL AM-15C Mobile amplifier, similar to above, but less phono top and tubes, list\$55.00

S-15 Shield for Model AM-15C amplifier, list.....\$4.00

T-15 Tube kit for amplifiers and systems, list.....\$5.50
... value plus, this complete mobile system!

MODEL AMR-15SX Mobile System, including Model AMR-15C Mobile Amplifier with phono top, Type X-3 Crystal Microphone with combination hand and desk stand, and 7 ft. shielded cable, 12" pm speaker and 15 ft. cable—but less aluminum baffle and tube, list\$86.50

Additional 12" pm speaker with 15 ft. cable, list.....\$12.00

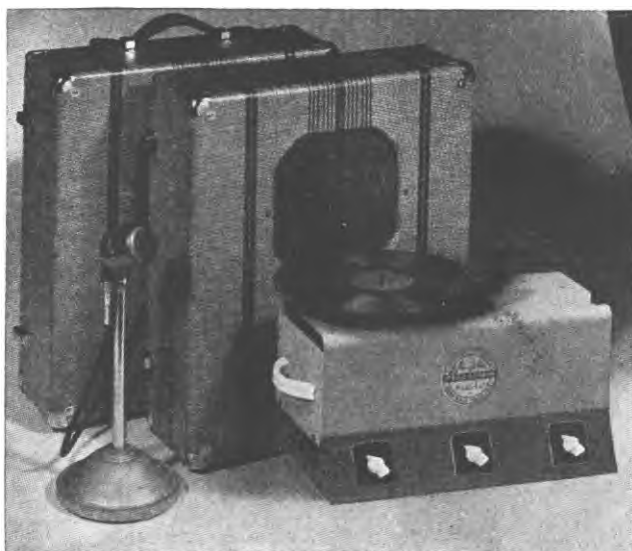
Type B-1 Spun Aluminum Baffle, illustrated above, list.....\$9.00

Portable System in Carrying Case

MODEL AMR-15DP — Dual speaker system, completely housed in portable carrying case. Equipment includes the MODEL AMR-15C Amplifier for 6-110v operation, phono top, two 8" heavy-duty pm speakers and 25-ft. cables for each speaker. No tubes or microphone are included. List price\$105.00

Type X-2 Crystal Microphone with 20-ft. rubber covered cable, list\$10.00

T-15 Tube Kit for above system, list, \$5.50



AUDIOGRAPH • Sound Systems

25 Wat Mobile (6-110v) Amplifier

MODEL AMR-25C—Operates from 6v battery and 110v AC line. The "Economizer" switch cuts battery drain in half between announcements—but keeps the tubes warm for instant operation.

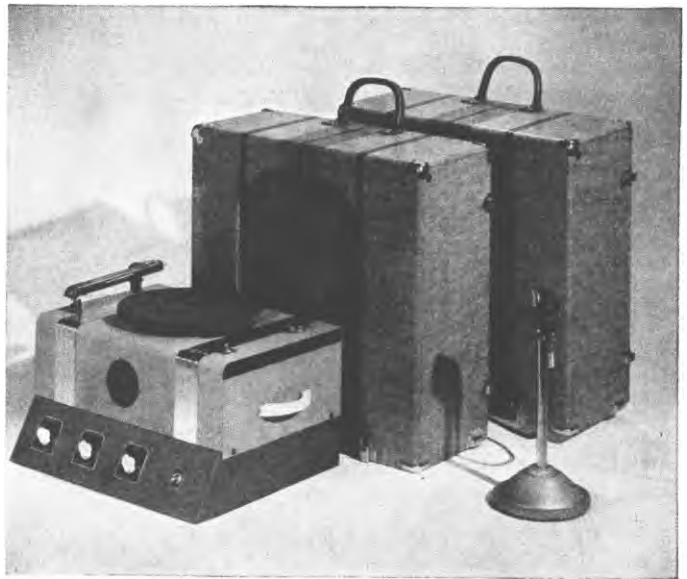
Operation from 110v AC line is secured without the use of cumbersome external power packs. Changeover from battery to AC by the flip of a single switch.

Microphone and phono inputs have separate controls, allowing the mixing of speech with recorded background. Dual action tone control builds highs for crispness, or low notes for mellow tone. Either one or two 6-8 ohm pm speakers can be plugged in at will, with no rewiring or switching. Output is conservatively rated at twenty-five watts, with less than 8% total distortion—maximum output is 35 watts. The response is flat within 1.5 db from 50 to 10,000 cycles. Uses ne 6SJ7 high gain input, one 6SC7 electronic mixer, push-pull 6L6G output and two 6X5G rectifiers to assure ample power. Optional phono top has latest type crystal pick-up and rubber mounted motor.

MODEL AMR-25C Mobile Amplifier, complete as described, with phono top, for 6v and 110v operation, but less tubes, list\$95.00
MODEL AM-25C Mobile Amplifier, less phono top and tubes, otherwise identical to unit described above, list.....\$60.00
 T-25 tube kit for above amplifier and systems, list....\$7.50

COMPLETE MOBILE SYSTEM

MODEL AMR-25BX—the above amplifier with phono top, two heavy duty 12" pm speakers and 25 ft. cables, two spun aluminum baffles and new Type X-3 Crystal Microphone with combination hand and table stand, 7 ft. shielded cable—but less tubes, list.....\$143.00
 (Deduct \$8.00 if microphone and stand are not desired.)
 (Deduct \$18.00, if the two bullet baffles are not desired.)



25 Watt (6-110v) Portable System

MODEL AMR-25PX—Here is a compact, portable sound system that is useful the year around. Operates with equal performance from 6v. battery or 110v. AC power line. Includes the Model AMR-25C Amplifier with phono top, two 12" heavy duty pm speakers and 35 ft. cables, mounted in aero-cord carrying case, and the Type X-2 Crystal Microphone with 20 ft. rubber covered cable—but less tubes and stand, list\$152.50

(Deduct \$10.00 if microphone is not desired.)

Type T-1 Table Stand for above system, list.....\$2.00
 Type F-1 Floor Stand for above system, list.....\$8.50

40 Watt Mobile (6-110v) Amplifier



MODEL AMR-40C—Full forty watt output with no greater battery current than most twenty-five watt mobile amplifiers. Twin vibrators with power factor condensers reduce the load on contact points—and the use of three 6X5 rectifiers assure full voltage at highest power peaks.

Two microphones may be operated simultaneously, with separate volume control for each. A single switch provides instant changeover from battery to AC line operation.

Uses two 6SF5 high gain inputs, one 6SC7 electronic mixer, one 6C5 driver, push-pull 6L6G output, and three 6X5G rectifiers. Output impedances of 2, 4, 8, 166, 250 and 500 ohms are provided at a tap switch.

Phono top with high grade crystal pick-up and constant speed AC motor, operated from tuned vibrator for battery use, is protected by removable lid.

MODEL AMR-40C Mobile Amplifier, complete with phono top as described above, but less tubes, list.....\$160.00
 T-40 tube kit for the above amplifier, list.....\$10.25



BELL SOUND SYSTEMS

PUBLIC ADDRESS EQUIPMENT

10-15-24 WATT PORTABLE SYSTEMS THREE POPULAR OUTFITS TO FIT MOST P.A. REQUIREMENTS

MODEL 510 — 10 WATT

High Quality and Power at Low Cost

Every detail of the Model 510 conforms to Bell's recognized high standards. With undistorted output and an improved tone compensator, excellent fidelity of reproduction is assured. The two input channels, one "mike" and one phono, can be mixed and have separate volume controls. A rotary switch facilitates selection of output impedances. Output tubes are of the beam-power type.

DUAL SPEAKERS, CRYSTAL MICROPHONE

Two 10" permanent magnet speakers are mounted in a convenient grey Keratol-covered carrying case, which also accommodates the amplifier, cables and microphone. The microphone is a crystal, diaphragm type, ideal for general purpose public address work.

The amplifier mounts in the bottom of the case with each split half of the top baffling a speaker. In transit it is housed in one portable case measuring 18" x 20" x 13 1/2". The mike stand is a desk type with chromium stem and grey wrinkle base, 9" high. The amplifier control panel is illuminated for convenient use in darkened places.

510 AMPLIFIER SPECIFICATIONS

POWER OUTPUT—10 watts, peak 14 watts.
OVERALL GAIN—122 DB.
FREQUENCY RESPONSE—50 to 10,000 cycles. (Within plus or minus of 2 DB.)
CIRCUIT—3 stage, Class A, resistance coupled.
TUBES—1-6SJ7; 1-6N7; 2-6V6G; 1-5Y3G.
OUTPUT IMPEDANCES—500, 250, 15, 8, 4, 2.5, 1.25 ohms.
CONTROLS—THREE: Microphone volume, Phonograph volume, Tone.
POWER SUPPLY—110/120 volts, 50/60 cycles.
OVERALL SIZE—6 1/4" x 7 1/4" x 15 5/8".
WEIGHT—16 pounds.
MODEL 510—Amplifier Unit only, Less Tubes, List price.....\$42.50

COMPLETE 510 SYSTEM

MODEL P.A. 510E—Complete, including portable carrying case, Crystal microphone, desk stand, amplifier, two heavy duty 10" speakers, speaker cables and microphone cable
List Price, less tubes.....\$99.95 Kit of Matched Tubes, List.....\$6.00

MODEL 524 — 24 WATT

Here's Highly Satisfactory Sound Amplification

A moderately sized, heavy duty system that will do a highly satisfactory sound amplification job for most any application. Its undistorted 24 watt output is ample for all except the very largest P.A. installations.

BASS AND TREBLE COMPENSATORS

Any desired shade of tonal quality may be achieved by balancing the two separate tone controls—one attenuating the bass response, the other the treble register. Inverse feedback is also incorporated, which reduces harmonic distortion, stabilizes the amplifier and improves the bass wave form. Acoustic feed-back is greatly reduced by adjusting the tone controls to meet reverberation conditions in different rooms.

Three input channels with separate volume controls for each allow mixing of two microphones and a phonograph pickup. All controls are mounted on an attractive illuminated plastic dial. Among other features are the beam power output tubes and a selector switch for immediate matching of output impedances.

TWO AUDITORIUM SPEAKERS

While provided with two heavy duty auditorium type 12", permanent magnet dynamic speakers, matching terminals permit the use and matching of as many as six speakers. An efficient crystal microphone with stand completes the assembly. The modern styled microphone is adaptable to any sound pick-up source, non-directional or semi-directional. A diaphragm type crystal, it is ideal for general purpose public address work.

DUAL CARRYING CASES

To make it as easy as possible to carry, the system fits into two convenient cases, forming a balanced load. The entire system is enclosed in two grey Keratol covered cases. Speaker case: 20 x 18 x 13 1/2". Amplifier case: 10 x 18 x 12 1/2". Wt. 60 lbs.

524 AMPLIFIER SPECIFICATIONS

POWER OUTPUT—24 watts.
OVERALL GAIN—130 DB.
FREQUENCY RESPONSE—35 to 10,000 cycles. (Within plus or minus 2 DB.)
CIRCUIT—Four stages, Class A, resistance coupled.
TUBES—2-6SJ7; 1-6N7; 2-6L6G; 1-5V4G; 1-6SF5.
OUTPUT IMPEDANCES—500, 250, 15, 8, 4, 2 1/2, 1 1/4 ohms.
CONTROLS—FIVE: Two microphone controls, phono control, bass tone control, treble tone control.
POWER SUPPLY—110/120 volts, 50/60 cycles.
OVERALL SIZE—8" x 8 1/2" x 16 1/4".
WEIGHT—25 pounds.

COMPLETE 524 PORTABLE SYSTEM

MODEL P.A. 524—Complete in two carrying cases, Crystal microphone with desk stand, amplifier, two speakers, AC power cord, two 25 ft. speaker cables, 25 ft. microphone cable.
List Price, less tubes.....\$163.50



Complete 10 and 15 Watt Systems case into one case. Quickly set up and taken down. Easily moved.

Model 524—Amplifier Unit only, less tubes.....67.50
Kit of Matched Tubes, List.....10.70



MODEL 515 — 15 WATT

An Ideal System for Many Uses

Here's a medium wattage system that affords many features of higher priced equipment. Its low distortion and high quality reproduction make it an ideal outfit for many purposes.

THREE INPUT CHANNELS

Separate volume controls on three input channels provide for simultaneous mixing of two microphones and a phonograph pickup. An improved tone compensator aids in eliminating feed-back difficulties.

INVERSE FEED-BACK CIRCUIT

The high gain amplifier incorporates inverse feed-back which reduces harmonic distortion, stabilizes the amplifier and improves wave form on low frequencies. Beam power output tubes, a tap switch for selecting output impedances, and many other distinctive features of high quality amplifiers go into the Model 515.

A READY-TO-USE SYSTEM

Only high quality accessories are included in the complete portable system. A crystal microphone is included. Two heavy duty permanent speakers have special cone construction to give uniform response on low and high frequencies.

The housing for the amplifier is of modern design, finished in dustless grey and dark maroon and has an illuminated plastic control panel. It may be opened easily for servicing by the removal of two thumb screws. It is built to last but easy to service.

MODEL P.A. 515E—A complete system and is easily portable in a single carrying case measuring only 18" wide, 20" high, and 13 1/2" deep. Portable system weight 50 pounds.

515 AMPLIFIER SPECIFICATIONS

POWER OUTPUT—15 watts, peak 18 watts.
OVERALL GAIN—124 DB.
FREQUENCY RESPONSE—35 to 10,000 cycles. (Within plus or minus 2 DB.)
CIRCUIT—4 stage, Class A, resistance coupled.
TUBES—2-6SJ7; 1-6N7; 2-6V6G; 1-5Y3G.
OUTPUT IMPEDANCES—500, 250, 15, 8, 4, 2 1/2, 1 1/4 ohms.
CONTROLS—FOUR: three volume controls, tone control.
POWER SUPPLY—110/120 volts, 50/60 cycle.
OVERALL SIZE—8" x 8 1/2" x 16 1/4".
WEIGHT—21 pounds.

MODEL P.A. 515E—Complete as illustrated above including portable carrying case, Crystal microphone with desk stand, amplifier, two 10" speakers, speaker cables, and microphone cable.
List Price, less tubes.....\$115.50

Model 515—Amplifier Unit only, less tubes.....54.00
Kit of Matched Tubes, List.....8.10

THE ANSWER TO SOUND AMPLIFICATION NEEDS

Licensed by arrangement with E. R. P. I.



BELL SOUND SYSTEMS

PUBLIC ADDRESS EQUIPMENT

BELL MOBILE SYSTEMS

Operate on 6 Volts D.C. or 110 Volts A.C.

- Universal Operation
- Low Battery Drain
- Crystal Handtype Microphone
- Featherweight Crystal Pickup
- Beam Power Tubes
- Modern Styling
- Rugged Construction



28 WATT

Plenty of power for sound trucks, dance halls, carnivals and fairs! Because of its exceptionally fine tone quality and moderate size, it can be highly recommended for any type of service.

28 WATT AMPLIFIER

Three input channels are provided for two microphones and phono assembly. Three separate volume controls allow mixing with simultaneous use. Current consumption is minimized by the use of permanent magnet dynamic speakers and by means of separate power switches for the turntable, amplifier "B" supply and the tube filaments. Conversion to different current is simple and fool proof. Current consumption is 21 amperes from a six volt battery.

Dual tone controls allow independent adjustment of high and low frequency response to meet conditions. Beam power output tubes are used in an inverse feed-back circuit. Tubes used are: 2-6X5GT, 2-6N7, 1-6U5, 2-6L6G, 2-6X5GT. Output impedances are 500, 250, 15, 8, 4, 2½ and 1½ ohms.

In keeping with Bell's established quality, the phonograph equipment is the finest. A smooth-running motor assembly is incorporated with a lightweight crystal pickup—easy on records and having good bass response.

The amplifier is finished in grey and maroon, size 12" x 8½" x 16½". Weight: 32 pounds.

12" AUDITORIUM SPEAKERS

The heavy duty speakers are finished less baffles since each installation has its own requirements. They are rugged audiotium types readily adapted to any standard baffle board, box or horn. The microphone is a Crystal with convenient handle with provision for stand mounting of the mike if desired.

MODEL M-28—Complete mobile system comprising: 2-12" heavy duty P.M. speakers, 28 watt amplifier with phono assembly, crystal microphone. \$225.00

List Price, less tubes..... \$225.00

Model M-28—Amplifier—phono unit only, less tubes, list..... \$157.00

Kit of Matched Tubes..... 12.85

BELL 70 WATT AMPLIFIER

- Push Pull Cathode Driver
- Electronic Bass Boost
- Electronic Treble Boost
- Inverse Feed-Back and Volume Compression
- Volume Expansion
- 19 Tubes—6 Stages

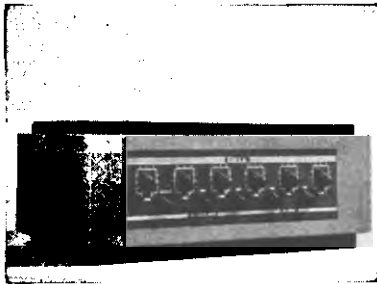
For large areas and crowds, the Model 70 is a masterpiece of amplifier construction. It is one of the few single unit amplifiers that will adequately cover a busy roller skating rink.

Every distinguishing feature of a really fine amplifier is incorporated. Volume compression, volume expansion and bass and treble boost circuits give sparkling performance. Five input channels care for any desired sound pickup arrangement. The high gain allows any high impedance microphone to be used. All standard line impedance values are available on the output.

Feed-back tendencies so prevalent in large auditoriums have been overcome in this unit by the proper use of the improved electronic treble boost and bass boost. This permits the degree of treble or bass response to be increased or decreased. The volume compressor circuit also aids in this situation. By means of inverse feed-back, harmonic distortion is reduced and the amplifier stabilized.

CHECK THESE OUTSTANDING SPECIFICATIONS

POWER OUTPUT—70 watts, undistorted.
STAGES—6 stage resistance and impedance coupled.
TUBES—1-6X5GT, 2-6N7, 1-6BE5, 1-6BE7, 1-6U5, 1-6L7, 2-6V6G, 4-6L6G, 2-5V4G, 1-6X5G.
OVERALL GAIN—140 DB.
CONTROLS—1 microphone volume controls, 1 master volume, 1 phonograph volume control, volume compression and expander controls, bass boost control, treble boost control, on-off switch.
OUTPUT IMPEDANCES—500, 250, 100, 125 ohms.
OVERALL SIZE—12" x 8½" x 21¾".
WEIGHT—55 pounds.
MODEL 70—Amplifier unit only..... \$164.50
 Kit of Matched Tubes..... 27.00



Self-Contained PHONO-P.A. Portable System



- Self Contained Phonograph Unit.
- 10 Watt Undistorted Output.
- Simple to Operate . . . Easily Transported.

A complete sound system with record player and microphone in one portable case!

Peak output is 14 watts; gain of 122 DB; three controls for microphone, phono, and tone; tubes are: 1-6X5GT, 1-6N7, 2-6V6G and 1-5Y3G. Operates from 110/120 volt, 50/60 cycle line.

The phonograph assembly utilizes a powerful motor with 10" turntable, plays any record up to 12" at 78 R.P.M. Its separate volume control allows mixing with the microphone.

The crystal microphone is suitable for picking up both the speaking voice and musical performances. Complete with a 10" permanent magnet dynamic speaker.

A COMPACT SOUND PACKAGE

The entire system encloses in one portable case covered with dustless grey Keratol, 13" x 17" x 16½". Weight 36 pounds.

MODEL 577—Complete system including amplifier, phono assembly, microphone, desk stand, speaker and cables. List Price, less tubes..... \$108.50

Kit of Matched Tubes..... 6.00

15 WATT Moderate Size Mobile System

In appearance it is identical to the M-28 except for having three controls in place of five, and being two inches narrower. It has beam power tubes, battery-saving switches, wide range of output impedances, inverse feed-back circuit, excellent phonograph components, hand type crystal microphone and modern styling—the same as the larger system.

Two input circuits, individually controlled, accommodate the microphone and phonograph which can be mixed. A tone control completes the control panel. Two 10" auditorium speakers are furnished. They are permanent magnet types and aid in reducing the battery drain to 15 amperes on battery operation. Tubes used are: 1-6X5GT, 1-6C5, 1-6N7, 2-6V6G and 2-6X5G. Operates on 6 volts DC or 110 volts AC.

MODEL M-15—Complete 15 watt mobile system with two speakers and microphone. List Price, less tubes..... \$155.00

Model M-15—Amplifier-phono unit only, less tubes, list..... 105.00
 Kit of Matched Tubes..... 8.90

THE ANSWER TO PUBLIC ADDRESS SYSTEMS

Licensed by arrangement with E. R. P. I.

BELL SOUND SYSTEMS

INTER-COMMUNICATING SYSTEMS



MODERN NEW
● STREAMLINED ●

BELphone

Reg. U. S. Pat. Off.

FAST DEPENDABLE
● ECONOMICAL ●



Illustrated above is the BELphone Master Unit—
Typical of Models 350—351—352



Illustrated above is the BELphone Master Unit Model 366
Typical of the 360 Series

Model 350 Master Unit—For use in type MS circuits where one master unit is used with any number of sub-stations up to ten. This unit is housed in a beautiful walnut cabinet. It has a power output of 2 watts and utilizes the following new local tubes: 7B7, 35A5, and 35Z4. This model uses the convenient key type send-recvie and station selector switches. Two volume controls are provided—one for control of sub-stations—one for control of master unit. Model 350 will not operate in multiple master unit circuits. Operates on either AC or DC, 110 volt current supply.
List Price, Including Tubes \$39.95

Model 351 Master Unit—For use in type MM circuit arrangements, where any number up to ten inclusive, of master units are required to provide complete two-way communication.
List Price, Including Tubes \$39.95

Model 352 Master Unit—Provides 3.5 watts power output and is for use in type MS circuits where greater power is required. Will not operate in multiple master unit circuits. Operates on 110 volt, 60 cycle AC ONLY. Tubes used are: 1-6SJ7; 1-5Y3G; and 1-6V6G.
List Price, Including Tubes \$49.95

NOTE: All of the above master units can be supplied with earphone for confidential requirements. Add letter "C" to model number and \$10.00 additional to the list price.

Model 362 Master Unit—This unit is housed in a modern walnut cabinet somewhat smaller than Model 350. The power output of Model 362 is two watts. This unit is designed for small and economical inter-communicating requirements. Model 362 contains features only found in higher priced units; pilot light, two volume controls, plug in cable connectors, key type send-recvie and station selector switches. This model is for use with either one or two sub-stations. It will not operate in multiple master unit arrangements. For operation on either AC-DC volt.
List Price, Including Tubes \$29.50

Model 362M Master Unit—For master to master unit operation (two station selection, for systems using up to three master units).
List Price, Including Tubes \$29.50

Model 366 Master Unit—Same as Model 362, except that it has station selection provision for six sub-stations.
List Price, Including Tubes \$33.50

Model 366M Master Unit—For master to master unit operation in systems involving up to six master units.
List Price, Including Tubes \$33.50

NOTE: All of the above master units can be supplied with earphone for confidential requirements. Add letter "C" to model number and \$10.00 additional to the list price.



SPEAKER SUB-STATIONS
For Models 350-352

Model 356 — Desk type sub-station in walnut cabinet equipped with key type call switch.
List Price \$15.00

Model 357 — Wall type sub-station in walnut finished metal cabinet equipped with call switch.
List Price \$14.00

Model 367 — Desk type sub-station in walnut cabinet equipped with push button type call switch.
List Price \$9.50

Model 367S — Desk type sub-station in walnut cabinet without call switch.
List Price \$8.00



SPEAKER SUB-STATIONS
For Models 362-366

THE ANSWER TO YOUR INTER-COMMUNICATION NEEDS

Licensed by arrangement with E. R. P. I.



BELL SOUND SYSTEMS

RECORDING EQUIPMENT



RE-CORD-o-*fone*

MODEL RC-2-P COMPLETE — PORTABLE RECORDER

- RECORDS AND PLAYS BACK IMMEDIATELY ANY SOUND
- PHONOGRAPH OF EXCELLENT TONE QUALITY
- CRYSTAL MICROPHONE WITH STAND AND FIFTEEN FOOT CABLE
- CAN BE USED AS PUBLIC ADDRESS SYSTEM
- HIGH FIDELITY AMPLIFIER
- HEADPHONE MONITORING JACK
- VISUAL RECORDING LEVEL INDICATOR

SPECIFICATIONS

Amplifier, microphone and stand, loudspeaker, transcription, and recording mechanism in one carrying case. Crystal playback and cutting head. Unit cuts 109 lines per inch and cuts from outside in. Motor is a heavy duty constant speed 78 R.P.M. High fidelity amplifier utilizes the following tubes: 6SJ7, 6SF5, 6V6G, and 5Y3G. Six inch electro dynamic speaker. Crystal microphone with 15 feet cable and desk

stand. Sensitive visual level indicator. Jack for headphone monitoring, input for direct radio recording. POWER SUPPLY— 110-120 AC volts, 60 cycles.

SIZE OVERALL—15" x 10 $\frac{3}{4}$ " x 15 $\frac{1}{4}$ ".

WEIGHT—35 pounds.

Model RC-2-P—Complete with tubes. List Price \$82.50

MODEL RC-1-P (Not Illustrated)—Attachment for use with any radio or public address system. This unit is almost identical in appearance with the Model RC-2-P, except that it does not contain microphone or amplifier. The motor, playback and cutting mechanism specifications are identical with the Model RC-2-P.

SPECIFICATIONS

Cuts and reproduces records up to 12 inches. 78 R.P.M. heavy duty motor. Visual level indicator. Cutting head impedance 4 to 8 ohms. Play-back arm impedance 500,000 ohms. Overall size: 15" x 15" x 8". Weight: 24 pounds.

MODEL RC-1-P List Price \$53.00

Model 505—An Ideal Ballyhoo Unit

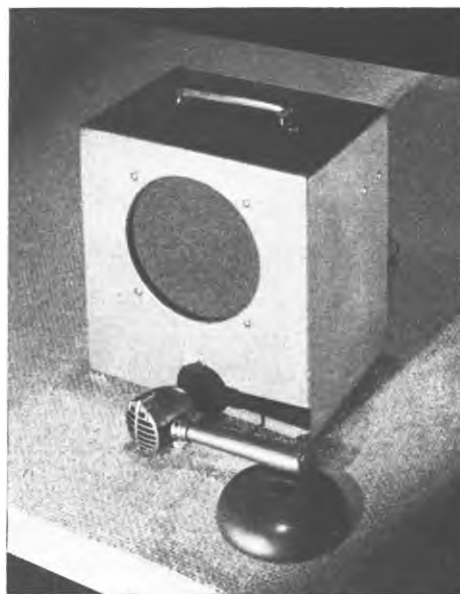
The Model 505 System is ideal for window and store demonstrations, small night clubs, auctioneers, public speakers, etc. It has sufficient power for rooms having a seating capacity of 400 to 500 people. It is exceedingly compact, requiring small space and making it very easy to transport. It embodies the following tubes: 1-6SJ7; 1-6V6G; 1-5Y3G. It has one input for high impedance microphone, or for high impedance phono pick-up. The microphone is a high quality crystal type and is supplied with fifteen feet of special shielded cable. A two-way desk stand is furnished, permitting the microphone to be used as either a hand or desk type.

- Quality Crystal Microphone
- Five Watts
- Beam Power Output
- Completely Self-contained
- Two-way Mike Stand

The carrying case is of sturdy construction and covered with a beautiful Spanish brown simulated leather, giving the unit a very rich appearance. Loud speaker is a heavy duty eight inch Electro Dynamic type. Overall size of system for transporting is 11 $\frac{1}{4}$ " x 12" x 8". The unit weighs only 14 pounds.

MODEL 505—Complete with amplifier, carrying case, 8 inch speaker, crystal microphone with 15 feet cable and plug, two-way stand, and TUBES.

List Price, complete with tubes \$49.50



THE ANSWER TO SOUND AMPLIFICATION NEEDS

Licensed by arrangement with E. R. P. I.

RACON TRUMPETS

PERMANENT MAGNET HORN UNITS



BULL PERMANENT MAGNET UNIT

One of the largest Permanent Magnet Units ever developed, using a patented special compensating phase cancellation device and patented heavy duty diaphragm.

Operating capacity 50 watts
 Peak capacity 100 watts
 400 oz. magnet.
 Flux density 16,000 gauss per sq. cm.
 Total weight 65 pounds
 Code: REVUL List Price \$225.00

SUPER GIANT Permanent Magnet Horn Unit

Operating capacity
 12-15 watts
 Peak capacity
 25 watts



130 oz. Alnico Magnet.
 Flux density 15,000 gauss per sq. cm.
 Total weight 17 pounds
 Code: REVUM List Price \$66.00

GIANT Permanent Magnet Horn Unit

Operating capacity 12-15 watts
 Peak capacity 25 watts
 104 oz. Alnico Magnet.
 Flux density 14,000 gauss per sq. cm.
 Total weight 13 pounds
 Code: REVUX List Price \$55.00

MASTER Permanent Magnet Horn Unit

Operating capacity
 10-12 watts
 Peak capacity
 20 watts



60 oz. Alnico Magnet.
 Flux density 12,000 gauss per sq. cm.
 Total weight 9 pounds
 Code: REVUE List Price \$44.00

JUNIOR Permanent Magnet Horn Unit

Operating capacity 8 watts
 Peak capacity 15 watts
 46 oz. Alnico Magnet.
 Flux density 10,000 gauss per sq. cm.
 Total weight 7 1/4 pounds
 Code: REVAT List Price \$35.00

All Permanent Magnet units use the finest grade of Alnico steel magnets and Armco iron throughout. Units are magnetized, using an electromagnetic cutout which gives the maximum flux density obtainable in the gap. All magnets are measured for flux density and each unit is tested with special machines for power handling capacity as well as 300 volt ground-test, making for uniform ability to stand all types of service. Voice coil impedance 15 ohms.

ELECTRODYNAMIC HORN UNITS



All RACON Electrodynamic units are made of best grade Armco iron, Standard field 6-8 volts. Special fields to order. Voice coil impedance 15 ohms. Operating capacities and sizes similar to Permanent Magnet Units shown above.

	Code	List
SUPER GIANT	RHEUM	\$66.00
GIANT	RANGE	55.00
MASTER	RINSE	44.00

MULTIPLE HORN COMBINATIONS

Connectors made of heavy cast bronze with loose couplings for unit connection.

Combinations of two or three trumpet horns driven by one unit through properly designed connectors, will be found very efficient and flexible for public address service. Wider coverage can be obtained from the same power level, and frequency response is improved since the low-frequency cut-off is a product of the total bell area of all the horns.



Double Connector — Dispersion angle 75°	
Code: RADIX	List Price \$14.85
Triple Connector — Dispersion angle 105°	
Code: RACER	List Price \$19.25

DIAPHRAGM REPLACEMENTS

Code	Description	Net Price
Code: RUTEX	Type A Diaphragms only	\$2.60*
Code: RUVEX	Type B Diaphragms only	3.60*
Code: RUZEN	Type A Head Assembly (including diaphragm) Theatre Type	4.25*
Code: RUZUR	Type B Head Assembly (including diaphragm) General PA Type	5.25*
Code: RUCHE	Type C Head Assembly (including heavy duty diaphragm) Aeroplane Type	6.00*
Code: RUBUF	Type A High Fidelity Head Assembly (including diaphragm)	6.00*
Code: RULES	Bull Unit Diaphragms only	15.00*
Code: RUSSET	Super Power Diaphragm only	7.50*

STEEL SWIVEL BRACKETS FOR CONE PROJECTORS

For wall or truck mounting, with tooth ratchet swivel to give 180° angular movement; with or without stand, to attach to standard pipe.



For Armored Cone Projectors.

Without Base
 Code: RAMON
 List Price \$2.50

With Base
 Code: RAMOB
 List Price \$4.00



For Cone Projectors

Without Base
 Code: RAMIS
 List Price \$3.00

With Base
 Code: RAMIT
 List Price \$4.50

For 12" or 8" Cone Marine

Without Base
 Code: RAMUN
 List Price \$3.00

With 1 1/2" Base
 Code: RAMUB
 List Price \$5.00





RACON TRUMPETS

ARMORED CONE SPEAKER PROJECTORS



Bell 22" x 22" overall



Bell 24" x 29" overall



Bell 30" x 40" overall

Newly designed heavy gauge aluminum projectors to give highest efficiencies obtainable with cone speakers. Steel back enclosures have properly designed release holes to prevent resonance effects, and a cast aluminum mounting plate. An all-purpose projector for indoor or outdoor use! Provided with mounting hook and mounting holes. Simple to install and efficient. Supplied without steel back, with steel back or with damped steel back having silk gauze and wire screen for cone protection.

For 6"-8" Cone
Without steel back.
Code: REDAY List \$19.50
With steel back.
Code: REDAZ List \$22.50
With damped back and cone opening protected by silk gauze and wire screen.
Code: REDAD List \$25.00

For 8"-10" Cone
Without steel back.
Code: REFER List \$24.50
With steel back.
Code: REFID List \$28.50
With damped back and cone opening protected by silk gauze and wire screen.
Code: REFAD List \$33.00

For 10"-12" Cone
Without steel back.
Code: REGAN List \$50.00
With steel back.
Code: REGIM List \$54.00
With damped back and cone opening protected by silk gauze and wire screen.
Code: REGAL List \$58.50



RADIAL CONE PROJECTOR

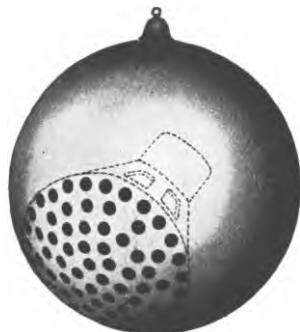
An efficient adjustable cone projector for angular forward and 360° radial projection. Ideal for use in gymnasiums, banquet halls, auditoriums, etc.

Has a heavy gauge aluminum bell, cast aluminum mounting plate, an acoustic material dispersor and a damped steel back. Acoustic dispersor prevents vibration and is adjustable to change angular forward projection. For 8" cone only.

Bell diameter 14". Length overall 24".

Code: RULIT List Price \$27.50

BALL TYPE CONE SPEAKER



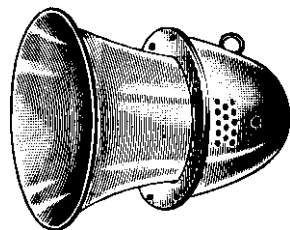
A new type ball speaker to be used where directional sound is required and where the standard type of cone projections clash with the surrounding furnishings or architecture.

Will project a beam at an angle of 45°.

Will operate with 6", 8" and 10" cone speakers, and can be used for paging systems (voice reproduction) as well as for musical reproduction.

Made of steel, with hanging lamp fixture. Finished in silver.

	Bell Diameter	Weight	Code	List Price
For 6" Cone.....	9½"	3½ lbs.	REBAL	\$7.50
For 8" Cone.....	12"	6 lbs.	REMAL	9.00
For 10" Cone.....	14"	9 lbs.	RESAL	12.00



ARMORED CONE PROJECTOR

An efficient heavy gauge steel and aluminum projector for dynamic cone speakers. Rugged and suitable for indoor or outdoor use. Steel back enclosure and heavy gauge aluminum bell with waterproof overlap. Provided with mounting hook and mounting holes. Overall length 20". Bell diameter 17". For use with 12" or 10" cone speakers.

Code: RUMID List Price \$8.50
All steel projector (steel back and steel bell).

Code: RUMIS List Price \$10.00
Projector with aluminum bell and steel back, acoustically damped and cone opening protected by wire screening and silk gauze.
Code: ROBOT List Price \$12.50



ARMORED CONE PROJECTOR

For use with 6" or 8" cone speakers. Overall length 15". Bell diameter 15".

Code: RUMIX List Price \$7.50

Above with steel back, acoustically damped with heavy sound absorbing material, and cone opening protected by wire screening and silk gauze.

Code: RIFLE List Price \$10.00
Bell only.

Code: RYDUR List Price \$6.00



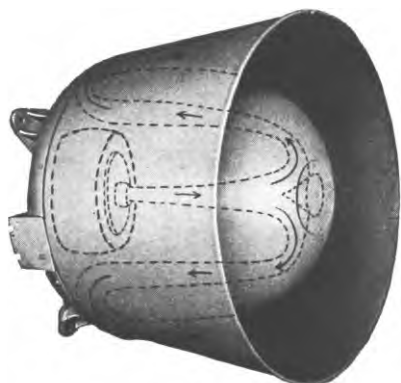
Model R430M TURRET PROJECTOR

For general use where excellent quality and projective power are required. 60° distribution angle. Overall length 34½". Bell diameter 24". WEATHERPROOF.

Rigidly mounted on a mechanical-acoustic impedance-matching throat element, with an all-steel, acoustically damped bullet back. Made of heavy gauge aluminum, with rolled metal beaded edge and cast aluminum coupling. Bronze mounting bracket with pipe socket fitting for general mounting or hanging requirements.

R430M Turret Projector complete without cone speaker.

Code: RUBES List Price \$65.00



BULL MARINE SPEAKER

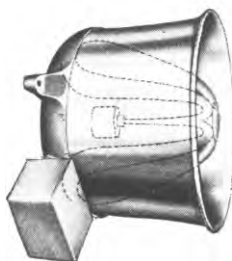
A large re-entrant type of horn, 28" diameter, 21" deep, made of heavy aluminum casting and Racon unbreakable bell and centre section. Will withstand extremely high wattages without vibration.

Designed to operate with Racon Bull unit for 50 watts, with 4 Racon Marine units for 40 watt operation, or 2 Racon Marine units for 20 watt continuous operation. Cut-off 125 cycles.

Code: REDUL REVUL—Bull Horn with Bull Unit complete, 50 watt operation; wt. 120 lbs.	List Price \$485.00
Code: RADOF REVUE—Bull Horn with 4 Marine Units complete, 40 watt operation; wt. 118 lbs.	476.00
Code: RADOT REVUE—Bull Horn with 2 Marine Units complete, 20 watt operation; wt. 91 lbs.	363.00

MARINE SPEAKER

Approved by the Bureau of Marine Inspection and Navigation, Department of Commerce, for all Emergency Loudspeaker Systems on ships, under the 53rd Supplement of the Bureau, after tests made by the Bureau of Standards, Washington, D.C.



The latest speaker in Marine Practice! A double re-entrant type of horn, 14" in diameter, 10" deep—having a base of heavy aluminum casting and heavy aluminum spinning. Uses a Racon Master Unit. The driving Unit and connections are all enclosed, making a completely waterproof speaker not affected by temperature or weather, including use on sea even during storms!

This Marine Speaker is used both as a Loudspeaker and as a Microphone. It will pick up sound outdoors

from distances up to 100 feet with very small amplifying gain, and will deliver 100 DB of sound 10 feet from the horn with an input of approximately one watt! Cut-off 250 cycles.

Makes an ideal speaker not only for Marine work but also for general P.A. use, where a highly concentrated sound for great distance is required.

Code: REDIM—Complete with unit; weight 25 lbs.	List Price
	\$100.00

MIDGET MARINE SPEAKER

Approved by the Bureau of Marine Inspection & Navigation, Dept. of Commerce, for ship use. A double re-entrant type horn, 9 3/4" diameter, 6 3/4" deep. Uses a Racon Junior P.M. unit. Built as sturdily as the regular Marine speaker but smaller in size. A highly efficient and directional P.A. speaker. Cut-off 350 cycles.

Code: RASOM—Marine Speaker, complete with unit; wt. 10 1/2 lbs.	List Price
	\$55.00

MINIATURE MARINE SPEAKER

A miniature re-entrant type of horn, similar in design to the above Marine speakers. Bell diameter 6 3/4", depth 4 3/4". Uses a Racon Baby Unit. Ideal where a highly efficient and directional speaker is required to occupy a small space and where voice reproduction must overcome high noise levels. Cut-off 500 cycles.

Code: REDUP—Miniature Marine Speaker, complete with unit; weight 5 1/4 lbs.	List Price
	\$27.50

CONE MARINE SPEAKER

A re-entrant speaker of the marine type, for cone operation.

Owing to its unusual construction, this speaker can be used outdoors as well as indoors, in all weather and temperatures, without impairment.

The cone diaphragm is protected not only from direct contact with rain but also from physical damage.



IN ALL RACON CONE MARINE SPEAKERS bell is made of heavy gauge aluminum; cone mounting is made of aluminum casting; and center bullet is made of RACON ACOUSTIC material to prevent resonant effects. Material is storm-proofed for all weather conditions.

FOR 12" CONE

Bell Diameter	24"
Depth	15"
Weight	10 lbs.

Code: RELIM	
List Price, without speaker	\$28.00

FOR 5" CONE*

Bell Diameter	10 1/2"
Depth	8 1/2"
Weight, without speaker	2 1/4 lbs.

Code: REKIM	
List Price, without speaker	\$8.00

FOR 8" CONE

Bell Diameter	17 1/2"
Depth	11 1/2"
Weight	4 1/2 lbs.

Code: REFIM	
List Price, without speaker	\$15.50

Code: RESIM	
List Price, with 5" speaker	\$11.00

FOR 4" and 3" CONE

Bell Diameter	7 1/4"
Depth	5 1/4"
Weight	2 1/4 lbs.

Code: REPIM	
List Price, with speaker	\$9.00

*NOTE: 5" and 4" Cone Marine supplied with bracket without charge.



UNITS

TRUMPETS

TRUMPETS for HORN UNITS



ACOUSTIC TRUMPETS

Trumpets are made of Racon patented acoustic non-vibratory material. Stormproof models are guaranteed for life as waterproof in outdoor use in all climates and weathers, including immersion in water.

3 1/2-Foot Regular Model

Equipped with rolled-metal beaded edge, metal ferrule and suspension ring. Adapted for 7/8-18" or 1 3/8-18" threaded unit. Weight 6 1/2 lbs. 22" diameter.

Code: RELAY.....List Price \$23.50

De Luxe Type—Equipped with rolled-metal beaded edge, reinforced cast-aluminum tone-arm, and suspension ring. For indoor use. Weight 10 lbs.

Code: REMIT.....List Price \$28.50

Stormproof Type—Equipped same as De Luxe. Waterproof. Weight 12 lbs.

Code: RENEW.....List Price \$45.00

4 1/2-Foot Trumpet

Equipped with rolled-metal beaded edge and 25" cast-aluminum throat. Demountable into two sections, which can be quickly assembled or disassembled.

De Luxe Type—Weight 16 lbs.

Code: RANCH.....List Price \$45.00

Stormproof Type—Weight 18 lbs.

Code: RACEY.....List Price \$62.50

6-Foot Trumpet

Equipped with rolled-metal beaded edge, 34" cast-aluminum throat, and suspension eyelets. Bell 30" diameter.

De Luxe Type—Weight 18 lbs.

Code: RHYME.....List Price \$62.50

Stormproof Type—Weight 23 lbs.

Code: RIDER.....List Price \$78.50



ALL ALUMINUM TRUMPETS

All trumpets made of 12-gauge aluminum with cast-aluminum throat sections and cast-aluminum clamping edges, with reinforced bell and loose couplings.

6-Foot Trumpet

Bell 30" diameter. Demountable into three sections. Weight: 19 lbs.

New Single-Unit Type—34" cast throat.

Code: RHINO.....List Price \$68.50

New Two Single-Unit Type.

Code: RHOMB.....List Price \$76.00

4 1/2-Foot Trumpet

Demountable into 2 sections. 25" cast throat. Bell: 25". Weight: 11 lbs.

Single-Unit Type

Code: RIANT.....List Price \$50.00

Two-Unit Type

Code: RIBES.....List Price \$57.50

3 1/2-Foot Trumpet

Demountable into 2 sections. 10" cast throat. Bell: 22". Weight: 7 lbs.

Code: REPEX.....List Price \$27.50

UNBREAKABLE REINFORCED TRUMPETS

Made of Racon acoustic stormproof material, reinforced throughout. Guaranteed unbreakable. The last word in trumpet design and particularly adaptable where high quality and high efficiency is required, with the ability to withstand the roughest handling without breakage.

6-Foot Trumpet

Demountable into three sections. Equipped with 34 inches of aluminum throat casting.

Single Unit Type

Code: REGON.....List Price \$97.50

Two-Unit Type

Code: REGAY.....List Price \$105.00

9 UNIT AEROPLANE HORN

Bell 30" diameter. Length overall 54". **STORMPROOF**—Rolled metal beaded edge. Heavy aluminum throat section. Loose couplings for units. Suspension ring. Demountable.

Equipped to operate with 9 Units.

A super-powerful and efficient Public Address Horn for extreme long range projection.

Three mile ground projection capacity.

Weight 48 pounds.

Code: RABIB.....List Price \$275.00



RADIAL HORN

Width 43" **Height 50"**
Equipped with cast aluminum throat, cold rolled steel suspension brackets, reinforced edge. Demountable.

This horn is accurately designed to project sound over a complete circumference of 360 degrees, distributing same with even intensity. It is particularly adapted for use on trucks, tower equipment, churches, amusement parks and general public address use where a complete circumferential coverage is desired.

2 Unit Radial Horn

RADIAL Horn only, STORMPROOF
Weight 60 lbs. without units and brackets.

Code: ROUND.....List Price \$260.00

RADIAL Horn only, REGULAR

—for indoor use.

Weight 55 lbs. without units and brackets.

Code: RUSAN.....List Price \$210.00

4 Unit Radial Horn

RADIAL Horn only, STORMPROOF
Weight 68 lbs. without units and brackets.

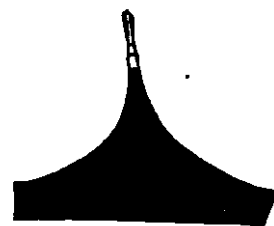
Code: RADAH.....List Price \$325.00

RADIAL Horn only, REGULAR

—for indoor use.

Weight 63 lbs. without units and brackets.

Code: RUSHY.....List Price \$265.00



SIX FOOT FLAT BELL TRUMPET

This trumpet has been developed to meet special conditions where the height or width available are insufficient for the standard round bell horns. It is acoustically equal to the standard circular bell 6 Foot Trumpet. The bell section, however, is 12" in height by 51" wide. This horn is particularly suited for truck mounting and for interior work such as above or on the sides of stages.

All types equipped with double cross braces, cast aluminum throat sections semi-demountable, and loose couplings for unit attachment.

DeLUXE INDOOR TYPE—Weight 24 lbs.

Code: ROGUE.....List Price \$61.50

STORMPROOF TYPE—Weight 28 lbs.

Code: ROBIN.....List Price \$78.50





RE-ENTRANT TRUMPETS



A compact trumpet of the double re-entrant type, made to occupy a small space, yet has a long air column, delivering highly concentrated sound with the greatest efficiency over long distances.

Standard P.M. Units can be used, from the Junior size at \$35.00 list to the Super Giant at \$66.00 list.

Made in four sizes:

6 FT. RE-ENTRANT

Bell Diameter 25½"
 Overall Length 28"
 Weight 20 lbs.

Code: REMOL
 List Price \$55.00

4½ FT. RE-ENTRANT

Bell Diameter 24½"
 Overall Length 23½"
 Weight 11 lbs.

Code: REMOM
 List Price \$40.00

3½ FT. RE-ENTRANT

Bell Diameter 18"
 Overall Length 16"
 Weight 7 lbs.

Code: REMOX
 List Price \$27.50

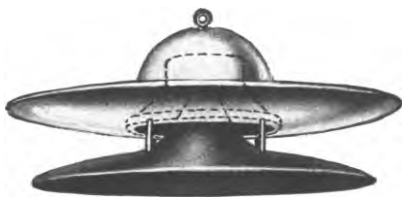
3 FT. RE-ENTRANT

Bell Diameter 14"
 Overall Length 12½"
 Weight 5½ lbs.

Code: REMOS
 List Price \$17.50

ALL RACON RE-ENTRANT SPEAKERS have base and inside tone arm made of aluminum castings, outside bell of heavy gauge aluminum spinning, and center reflecting section of RACON ACOUSTIC material to prevent resonant effects prevalent in all metal reflecting surfaces. Sturdy construction makes them practically abuse-proof.

RADIAL CONE SPEAKER



A radial speaker for cone operation.

This speaker is designed to project sound over a complete circumference of 360°, distributing the sound with even intensity and bringing out the high response lacking in direct cone horns.

Particularly adapted for use on trucks and in auditoriums where complete coverage is desired.

Can be camouflaged to blend with ceiling architecture.

FOR 12" OR 10" CONE

Reflector diameter 31"
 Depth 14"
 Weight 10 lbs.

Code: RADAG
 List Price,
 without speaker \$27.50

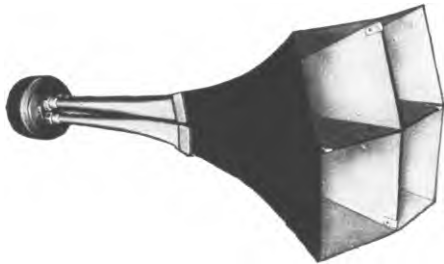
FOR 6" OR 5" CONE

Reflector diameter 17"
 Depth 7"
 Weight 3½ lbs.

Code: RADAC
 List Price,
 without speaker \$9.50

Code: RASAY
 List Price,
 with 5" speaker \$12.50

IN ALL RACON RADIAL CONE SPEAKERS, the upper deflector is made of heavy gauge steel, cone covering of steel, and lower deflector of RACON ACOUSTIC material to prevent resonant effects prevalent in all metal reflecting surfaces, and storm-proofed for all weather conditions.



CELLULAR HORN

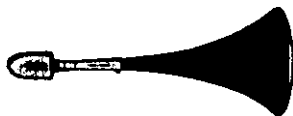
A new type of cellular horn for operation between 350 and 12,000 cycles, with an angular distribution of 60 degrees.

Uses a highly efficient P.M. Unit with a patented phase cancellation compensating device, reproducing all frequencies without cancellation effects.

Made only in blocs of 4 cells—of Racon unbreakable material, having heavy aluminum throat castings and unbreakable bell sections.

Overall length 32½". Total bell opening 12" x 12". Weight 18½ pounds.

Code: RAGAM—Cellular Horn with Master Size Unit..... **List Price \$125.00**
 Code: RAGOT—Cellular Horn with Giant Size Unit..... **136.00**



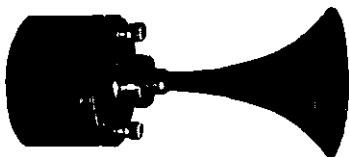
PAGING HORN

A small, extremely efficient 2-foot trumpet speaker, for use where highly concentrated sound is required to override high noise levels, such as in factories, outdoors, etc. Uses a small, very efficient Permanent Magnet unit. Particularly adaptable for paging systems, hotel lobbies, trucks, etc.

Horn is made of RACON ACOUSTIC storm-proof material with a beaded edge around the bell. Cast aluminum tone arm. Unit covered with aluminum case.

Bell diameter 12" Overall length 29"

Code: RELAY—Complete with Unit—List Price..... **\$40.00**



PERMANENT MAGNET HIGH FREQUENCY UNIT

An efficient and precision built unit, to meet the latest requirements for wide-range reproduction. Designed to cover the frequency band from 3,000 to 12,000 cycles. Special models are available for response up to 18,000 cycles. Supplied with horn, (as shown) and mounting bracket, (not shown). Designed to operate in conjunction with a suitable low frequency speaker (cone or horn type) in order to give high fidelity reproduction in the wide-range audio frequency band. Not made to operate below 3,000 cycles.

Voice Coil impedance 15 ohms.

Code: RABAT—Complete with Unit—List Price..... **\$20.00**



RADIAL HORN SPEAKER

A 3½ foot re-entrant type horn designed to project sound over a complete circumference of 360°, distributing the sound with an even intensity. For all sound installations where complete coverage is desired.

Base and tone arm made of heavy aluminum castings, center deflector and deflecting bells made of RACON ACOUSTIC material to prevent all resonant effects. Material storm-proofed and guaranteed against all weather conditions. Brass loose couplings for unit connection.

Uses standard RACON Units.

Width 17" Height 15" Weight 7 lbs.

Code: RADAK. List Price **\$35.00**



AUDITORIUM HORN

A 7 foot length horn folded to occupy a space 21½" x 26½" x 23½".

An excellent horn for auditoriums, small theatres, portable talkie equipment, etc., and for mounting in the proscenium arch of a large theatre. Small in size and light in weight.

A departure in standard horn design, giving excellent musical as well as speech reproduction out of all proportion to the small size of the horn.

DeLuxe Type for indoor use. Weight 25 lbs.

Code: ROOST (horn only). List Price **\$66.00**

Storm-proof Type, guaranteed for all climates and weather.

Weight 29 lbs.

Code: RETRO (horn only). List Price **\$88.00**

WRIGHT-DeCOSTER

RECORD PLAYER MODEL

An ideal speaker for any powerful radio receiver and record player. Also excellent for medium power public address work. The slightly accentuated Paracurve Diaphragm gives the Model E12J wider response than the other standard models.

● Power handling capacity, 8 watts. ● Voice coil form bakelite. ● 1½" diameter voice coil (Type J.) ● Voice coil impedance, 5.3 ohms at 400 cycles. ● Universal or line matching transformer. ● Field resistance, 2500 ohms. ● Field dissipation, 9 watts minimum, 16 watts maximum. ● Fully dust-proofed. ● Fully rust-proofed.

Model No.	Transformer	Size Inches	Depth Inches	Cone Brac. O.D.	Shipping Wt. Lbs.	Std. Pkg.	Code Word	List Price
E12JU	Universal	12	6½	12¾	13¾	6	WINNE	\$13.90
E12JL	Line Matching	12	6½	12¾	13¾	6	WINNZ	13.90
E12JN	Less Transformer	12	6½	12¾	12½	6	WINNY	11.90



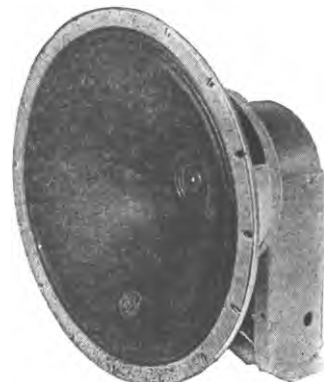
E12JU

STADIUM JUNIOR MODEL

This speaker has a good substantial field which gives it an excellent degree of efficiency. It has a dual field having a 1600 ohm resistance to operate with the FS3 Field Supply as shown below and a 2500 ohm field to accommodate most of the amplifier field supplies. The entire field strength is utilized with either resistance.

● Power handling capacity, 15 watts. ● Bakelite voice coil form. ● 2¼" diameter voice coil (Type G.) ● Voice coil impedance, 10 ohms at 400 cycles. ● Universal or line matching transformer. ● Field resistance, 1600 and 2500 ohms. ● Field dissipation, 15 watts minimum, 22 watts maximum.

Model No.	Transformer	Size Inches	Depth Inches	Cone Brac. O.D.	Shipping Wt. Lbs.	Std. Pkg.	Code Word	List Price
E12GBU	Universal	12	8¾	12¾	24	3	WROTH	\$21.40
E12GBL	Line Matching	12	8¾	12¾	24	3	WROTZ	21.40
E12GBN	Less Transformer	12	8¾	12¾	22½	3	WROTY	19.40



E12GBL

STADIUM SENIOR MODEL

Our finest electro dynamic P. A. Speaker. In manufacturing the Model E12GAL unit we endeavored to give the sound engineer the very best 12" speaker we possibly could manufacture regardless of cost. A trial of this reproducer will convince you it has many points of merit.

The easily accessible screw terminal strip located in the back of the base has five input impedances: 10 ohms (direct to voice coil), 500, 1000, 1500, and 4000 ohms.

● Power handling capacity, 15 watts. ● Bakelite voice coil form. ● 2¼" diameter voice coil (Type G.) ● Voice coil impedance, 10 ohms at 400 cycles. ● Special line matching transformer: 10 ohms (directly to voice coil), 500, 1000, 1400, and 4000 ohms. ● Field resistance, 1800 ohms to operate on 220 to 275 volts D. C. at current of 125 to 150 milliamperes. ● Field dissipation, 18 to 40 watts.

Note: If speakers are to be used in Metalex Horns be sure to specify when ordering.

Model No.	Transformer	Size Inches	Depth Inches	Cone Brac. O.D.	Shipping Wt. Lbs.	Std. Pkg.	Code Word	List Price
E12GAL	Line Matching	12	10½	12¾	33½	2	WATEZ	\$36.40
E12GAN	Less Transformer	12	10½	12¾	31	2	WATEY	33.40



E12GAL

WRIGHT-DeCOSTER A.C. FIELD SUPPLIES

Exposed Tube Type A.C. Field Supplies

Model FS1 is designed so that any model 6-8-10-12 inch D.O. Universal Series Electro Dynamic Speaker may be converted to A.C. operation. Delivers 9 watts to 2500 ohm field.

Model FS2 designed to furnish A.C. field excitation for Models E12JU, E12GCU and E12GBU. Delivers 100 m. a. at 170 volts.

Model No.	Volts A.C.	Cycles	Dimensions	Code Word	List Price
FS1	110	25-50-60	8¾" x 2½" x 1"	WAITS	\$4.90
FS2	110	25-50-60	8¾" x 2½" x 1"	WHISK	5.70

Standard Package: 3. Shipping Weight: 2 lbs.

Enclosed Tube Type A.C. Field Supplies

Single Tube Field Supplies

No.	Volts A.C.	Cycles	Output Volts	Output Amps.	Dimensions, Ins. Lgth.	Width.	Hght.	Code Word	List Price
FS3	110	50-60	200	.250	7	3½	5½	WOODY	\$16.50
FS4	110	50-60	110	.250	7	3½	6½	WRIST	17.50

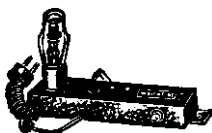
Single 5Z3 tube field supplies (minimum load resistance 750 ohms).

Standard Package: 2. Shipping Weight: 10 lbs.

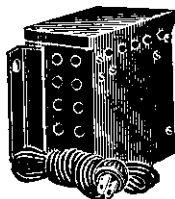
All above Enclosed Power Supply available 110 volts, 220 volts, 25 cycles, also 220 volt, 50-60 cycles, at additional cost.

Prices do not include tubes, and tubes are not furnished with Field Supplies.

NOTE: It is imperative to specify proper field resistance when ordering speakers for use with above field supplies.



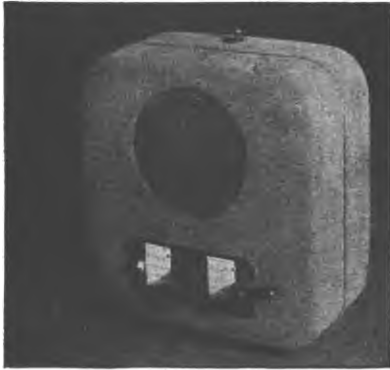
FS1



FS3

WRIGHT-DE-COSTER

If It's a "TALK-BAK" It's Wright-De-Coster



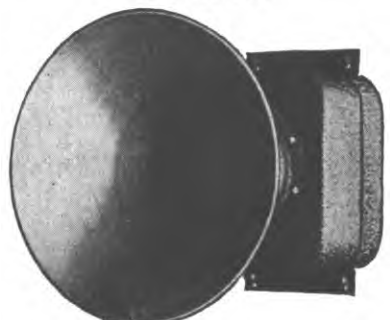
Model TBUA



Model TBUR3



Model TBUR1



Model TBB1

"Talk-Bak" Speakers, unlike standard Nokoil units, are especially engineered and designed for inter-communication systems. Tests of "Talk-Bak" Speakers prove their greater sensitivity and tone quality. In installations where both voice and music are to be rendered, the regular standard Nokoil Speaker should be used as the "Talk-Bak" will not give good musical reproduction.

SENIOR WIRED UNIT

The Model TBUA comes complete with an amplifier and is capable of operating up to 10 stations. The amplifier, which is especially designed for inter-communication systems, is furnished complete with all tubes, switches, etc., ready to connect to the complete system. Instructions on how to connect the "Talk-Bak" Senior are packed with each unit. When it is desirable to have all TBUR3 units as shown below, the Model TBA1 amplifier is used. This amplifier is exactly the same as the amplifier in the TBUA, except that it comes in a simple metal case with no switches, etc.

Model Number	Width	Size Height	Depth	Voice Coil Impd.	Shipping Weight Lbs.	Standard Package	Code Word	List Price
TBUA	9	10	5 1/2	50 ohms	13 1/2	2	WORLO	\$43.50
TBA1	9	9 1/2	4 3/4	50 ohms	13	2	WEGBT	34.00

JUNIOR WIRED UNIT

The TBUR3 is a very compact, appealing desk type of unit. It is 6 1/2 inches in diameter and 4 inches high. The speaker used is the Model TN5LT. The cabinet is equipped with a red busy indicator button and a black talk-listen button. The switch for selecting the station is mounted directly in the center. The Junior Wired Unit is furnished complete with switches all wired ready to attach to the complete system. Complete instructions on how to connect the units to the system is packed with each unit. TBUR3V is the same as TBUR3, only having a volume control.

Model Number	Voice Coil Impd.	Shipping Weight Lbs.	Standard Package	Code Word	List Price
TBUR3	50 ohms	3 3/4	12	WORLK	\$14.00
TBUR3V	50 ohms	4	12	WERLK	16.20

JUNIOR CABINET SPEAKERS

The Model TBUR1 is composed of a good looking round cabinet with a Model TN5LT "Talk-Bak" unit mounted in it. This unit is a perfect match for the wired unit Model TBUR3. The Junior Cabinet Speaker is used in systems such as System No. 1 or No. 2. It has no switches or internal wiring. A base plate is furnished to cover the opening in the bottom of the cabinet to provide means for hanging the unit on the wall if desired.

Model Number	Voice Coil Impd.	Shipping Weight Lbs.	Standard Package	Code Word	List Price
TBUR1	50 ohms	3 3/4	12	WORLJ	\$8.30
TBURS	Same as TBUR1, plus Talk-Listen Switch		12	WERLJ	9.65
TBURC	Round Cabinet Only		12	WCRLJ	3.10

DIRECTIONAL PAGER

The Model TBB1 comes complete with a N6KN Nokoil Speaker and amplifier. This is a very effective unit for distant paging.

Model Number	Depth Ins.	Diameter Bell Ins.	Voice Coil Impd.	Weight Lbs. Shipping	Code Word	List Price
TBB1	15	14	50 ohms	18	WITOP	\$60.00

The unit listed below is the same as the TBB1 only there is no horn and therefore the sound is diffused in a much wider area.

Model Number	Width Ins.	Height Ins.	Depth Ins.	Voice Coil Impd.	Shipping Weight Lbs.	Code Word	List Price
TBB2	9	9 1/4	6	50 ohms	15	WOALP	\$44.00

The TBB3 is a booster amplifier which is used in installations like Systems No. 1, 2 and 5.

Model Number	Dimensions, Ins. Width	Height	Depth Ins.	Shipping Weight Lbs.	Code Word	List Price
Booster TBB3	9	9 1/2	4 3/4	13	WRGBT	\$33.00

"TALK-BAK" SPEAKER CHASSIS

Model Number	Size Ins.	Voice Coil Impd.	Shipping Weight Lbs.	Standard Package	Code Word	List Price
TN5LT	5	50 ohms	2	24	WORLT	\$5.20
TN6LT	6	50 ohms	2 3/4	12	WADLT	6.05
TN8LT	8	50 ohms	3 1/4	12	WAYET	6.65

TBC7	— 7 wire cable, 1 wire shielded, per foot.....	\$0.16
TBC12	— 12 wire cable, 1 wire shielded, per foot.....	.23

WRIGHT-DE-COSTER

METALEX (truly exponential) HORNS

These horns are very efficient exponential types and should not be confused in any way with the so-called parabolic type horns. It was recognized that a metal horn would be the ideal unit to give long life under the most severe use. The difficulty, however, was that it was almost impossible to make a metal horn that did not have very objectionable resonances which made it impossible to have good reproduction on certain notes. In our new exponential horns we have overcome this difficulty. All of our metal horns are spun from steel and have an especially prepared material called "ex" used for coating the outside which damps the walls to a point where resonances are negligible. You will find these new horns give exceptional performance and a lasting service which can never be secured in other types of horns. There is a screen on the back of the speaker housing which eliminates compression and a screen in front of the weather proof cone to protect it against mechanical injury.

METALEX MULTI-PURPOSE MODEL

The Model MX6A Multi-Purpose Metalex Horn houses a 6" speaker and has a cut-off frequency of 250 cycles. This horn is especially recommended for voice reproduction but due to its exponential design and the "ex" material on the walls, it will give better musical reproduction than the metal parabolic horns of far larger size. The Model MX6A horn when used with a N6KL unit makes an excellent tweeter and when wanted for this purpose, it must be so noted on the order, as a different type diaphragm is used.

Model No.	Bell Opening	Length	Shpg. Wt.	Code Word	Std. Pkg.	List Price
MX6A	14"	13"	11 lbs.	WECHP	4	\$12.80

Priced without stand. For stand add \$4.50 list.

METALEX STADIUM JUNIOR MODEL

The Model MX12B Stadium Junior houses a 12" speaker and has a cut-off frequency of 180 cycles. It will give excellent output down to 150 cycles. This horn is to be used where voice reproduction is the prime requisite and where the absence of the extreme low notes in music is not objectionable.

Model No.	Bell Opening	Length	Shpg. Wt.	Code Word	Std. Pkg.	List Price
MX12B	20"	15"	20 lbs.	WTJKL	3	\$21.80

Priced without stand. For stand add \$4.50 list.

METALEX STADIUM SENIOR MODEL

The Model MX12A Stadium Senior houses a 12" speaker and has a cut-off frequency of 100 cycles. When used with a suitable 12" Model Wright-DeCoster Speaker it will give exceptionally high outputs down to 75 cycles. This horn should be used where not only voice but music also must be reproduced with good quality. The actual output at 100 cycles is nearly ten times as great as the same speaker mounted on an ordinary baffle.

Model No.	Bell Opening	Length	Shpg. Wt.	Code Word	Std. Pkg.	List Price
MX12A	35"	34"	46 lbs.	WBMNP	2	\$42.00

Priced without stand. For stand add \$4.50 list.

NOTE: The upright part of the stands are one-inch standard pipe threaded at both ends. The large, heavy base has four holes so it may be securely screwed to the platform. The swivel, which allows the directing of the horn at any angle, is placed between the top of the upright and the bottom of the horn.

If the speakers are wanted in the horns, state so on the order and we will install them at no extra charge.

When ordering 12" speakers for Metalex Horns, be sure and specify it on the order as these speakers come without bases.

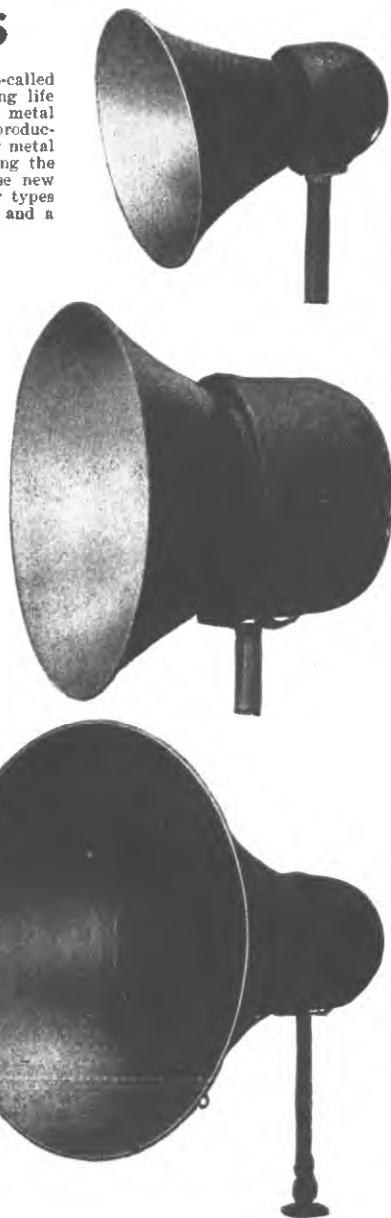


Model NKM6

"NOKOIL MULTI-TEST" SPEAKERS

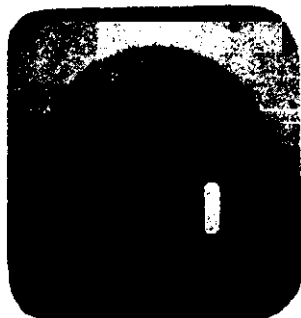
ALL A.C. RADIOS AND ALL D.C. RADIOS can now be tested with this new versatile, compact test speaker. The Nokoil speaker used in this new Multi-Test requires no field excitation and allows easy checking of auto and battery radio receivers. There are slotted holes in the back so it may be hung on the test panel when used in the laboratory. All leads are brought out to the selector switches so that any desired setting may be had instantly. A slotted recess is provided on the back of the cabinet to hold the instruction card. The universal output transformer for matching all tubes is worked out so carefully as to give the minimum amount of distortion. There is also a universal voice coil transformer which has taps that coincide with the values of all common voice coil impedances. This permits the easy checking of those radio sets and amplifiers that have the output transformer built into the chassis. It also permits checking output transformers under actual operating conditions. The universal artificial field is designed with taps at practically all resistance values used in standard practice. This test speaker can also be used to check the filter circuit. Built into a handsome steel carrying case with a soft suede finish that gives protection to the finest furniture, the Nokoil Multi-Test Speaker is indeed an instrument any engineer or service man can be proud of.

Model No.	Width	Size Height	Depth	Shipping Wt.	Std. Pkg.	Code Word	List Price
NKM6	9 1/4"	11"	6 1/2"	11 lbs. 7 ozs.	3	WICKL	\$28.00



WRIGHT-D-COSTER

SUEDE LIFETIME MAGNET CABINETS



Model WN8L

The smartest, most attractive speaker cabinet, providing unusual eye appeal with exceptional sound reproduction qualities. Modern in design and appearance. The soft suede finish, unlike wood, shows no dust . . . it does not crack . . . nor can it become loose or split from heat or cold. Truly the perfect cabinet.

SUEDE WALL CABINET

Colors: Taupe and light brown. The light brown grille blends perfectly with taupe cabinet. No metal trim is used on wall cabinets.

Uses: Ideal for schools, hotels, apartment houses, hospitals, public buildings and manufacturing plants; in fact wherever an external speaker is required.

Styles: Three types are available: first—wall mounting cabinet with back open; second—wall mounting with back closed (back half same finish as front half); third—wall mounting with two fronts (instead of front and back) so speaker cabinet can be mounted on edge and speaker heard in two directions.

SUEDE VEHICLE CABINET

Colors: Taupe and black. The black grille contrasts with the taupe cabinet in a most striking manner which is enhanced by the chrome plated metal ornaments at top and bottom.

Uses: Perfect for separate speaker for automobiles, trailers, buses, etc. Across the back of the cabinet is a heavy 4" metal strip with a single stud for mounting. Thus the cabinet carries the weight of the speaker eliminating the possibility of the pole piece shifting off center making the unit inoperative which often happens when the stud is screwed into the back of the speaker. The cabinet also has holes on the bottom for base mounting.

SUEDE CABINETS ONLY

Model No.		Width Inches	Height Inches	Depth Inches	Shipping Wgt. Lbs.	Std. Pkg.	Code Word	List Price
V8	Vehicle Cabinet	9 3/8	9 3/8	5	4 1/4	8	WAKKI	\$ 4.25
W8	Wall Mounting Cabinet	9	9 1/4	4 1/2	2 1/4	8	WAJET	3.75
W8F	Wall Mounting Cabinet with feet	9	9 3/4	4 3/4	2 1/4	8	WHDGO	4.00
W8B	Wall Mounting Cabinet with Back	9 1/4	9 3/4	4 3/4	4 1/4	8	WAHO	4.25
W8BF	Wall Mounting Cabinet with Back & feet	9 1/4	9 3/4	4 3/4	4 1/4	8	WFIT5	4.50
W8F2	Wall Mtg. with 2 Fronts (One in Place of the Back)	9 1/4	9 3/4	4 3/4	4 1/2	8	WAZAT	5.25
W10	Wall Mounting Cabinet	11 1/2	11 1/2	5	3	6	WEJKE	4.75
V10	Vehicle Cabinet	11 1/2	11 1/2	5 1/2	5 3/4	6	WELLO	5.25

SUEDE VEHICLE CABINET NOKOIL EQUIPPED

Model No.	Speaker Model No.	Speaker Size	Shpg. Wt. Lbs.	Standard Package	Code Word	List Price
VN8L	N8LU	8	6 1/2	8	WENIT	\$ 9.85
VN8K	N8KU	8	7	8	WABAL	13.45
VN10L	N10LU	10	9 3/4	6	WAKIL	12.00
VN10K	N10KU	10	10 1/4	6	WETTO	15.50

SUEDE WALL MOUNTING CABINET NOKOIL EQUIPPED

Model No.	Speaker Model No.	Speaker Size	Shpg. Wt. Lbs.	Standard Package	Code Word	List Price
WN8L	N8LU	8	4 1/2	8	WOOHO	\$ 9.35
WN8K	N8KU	8	5	8	WEZPO	12.95
WN8LF	N8LU	8	4 1/2	8	WNHP	9.60
WN8KF	N8KU	8	5	8	WNSHF	13.20
WN8LB	N8LU	8	6 1/2	8	WNIB	9.85
WN8KB	N8KU	8	7	8	WNSIB	13.45
WN8LBF	N8LU	8	6 1/2	8	WNHBF	10.10
WN8KBF	N8KU	8	7	8	WHKBF	13.70
WN8KF2	N8KU	8	7	8	WHKFB	14.45
WN10L	N10LU	10	6 3/4	6	WYZOL	11.50
WN10K	N10KU	10	7 3/4	6	WABZI	15.00

These cabinets have the new suede Izarine Finish which gives them the feel and appearance of suede. Special finish at a small additional cost.

NOTE: All above items packed 1 to individual carton. Universal transformers supplied as standard. Models may be had furnished with line matching transformer at no extra cost. Also furnished without transformer. Above suede cabinets may be equipped with electro-dynamic units.

HYFLUX MAGNETIC SPEAKERS

BAKELITE COIL FORM—METAL DUST PROOFING



The letters after model numbers: "A" indicate 7000 ohms no center tap for single output tubes . . . Letter "B" 10,000 ohms center tapped for pushpull and class B output tubes . . . Letter "C" 500-1000 ohms for public address use.

Model No.	Size Inches	Impedances	Depth Inches	Dia. Cone Brac. Ins.	Shipping Weight	Code Word	List Price
H6A	6	7,000 ohms	2 1/2	6 1/2	1 1/2 lbs.	WESEL	\$4.00
H6B	6	10,000 ohms	2 1/2	6 1/2	1 1/2 lbs.	WESEU	4.00
H6C	6	500-1000 ohms	2 1/2	6 1/2	1 1/2 lbs.	WESEV	4.00
H8A	8	7,000 ohms	2 3/4	8 1/2	2 1/4 lbs.	WEARD	4.50
H8B	8	10,000 ohms	2 3/4	8 1/2	2 1/4 lbs.	WEARU	4.50
H8C	8	500-1000 ohms	2 3/4	8 1/2	2 1/4 lbs.	WEARV	4.50

Standard Package: 12.

NOKOIL EQUALIZER

Where regular Nokoil Speakers (not special "Talk-Bak" Series) are used as microphones, and good voice reproduction is as essential as high quality music reproduction, such as for radio program or centralized sound systems, a Nokoil Equalizer is required. . . . The standard equalizer is designed for 500 ohm lines. . . . Special impedance values available at slightly higher cost.

Model No.	Dimensions	Shpg. Wt.	Std. Pkg.	Code Word	List Price
EQ5	8 3/4" Long, 3 3/4" High, 2" Wide	2 1/4 lbs.	1	WESTI	\$6.90



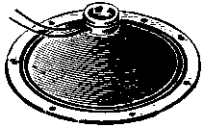


LEOTONE



CONE AND VOICE COIL ASSEMBLY

REPLACEMENT SPEAKER CONES



LEOTONE RADIO COMPANY manufactures a most complete line of PRESSED CORRUGATED and FREE EDGE CONE ASSEMBLIES, and BAKELITE BOBBIN FIELD COILS. Our vast assortment includes both types of single turn copper voice coil cone assemblies for Peerless and Colonial speakers. All products are in accord with LATEST ACCOUSTICAL improvements. Because of limited space, it is impossible to list our complete line. However, upon request we will be very glad to send you our COMPLETE CATALOG.



Part No.	O.D. Ins.	List Price	Part No.	O.D. Ins.	List Price	AUTO SPEAKER CONES		
						Part No.	O.D. Ins.	List Price
ATWATER KENT			OXFORD			ARVIN		
AX01	43, 46, 55, 60, 64, 66, 67, 71	10 3/4 \$2.00	OX13	3 pt. Triangle spider	10 1/2 2.50	1A01	10 (Operadio)	5 1.50
AX02	77, 87, 88, 89, 94, 96, 206, 469, late 83 and 85	10 3/4 2.00	OX14	3 pt. Triangle spider—4 1/2" deep	12 1/4 2.90	ATWATER KENT		
AX03	80, 82, 84, 84, 87, 90, 92, 280, 558, 627, 667, early 83 and 85	8 3/8 1.75	PEERLESS			1A02	666	6 1/4 1.75
AX05	F. H. P.	10 3/4 2.00	PX02	Copper Coil	8 1/2 2.75	BUICK B-O-P		
BEST			PX03	Copper Coil	10 3/4 2.90	1B01	980455	6 1/4 2.00
BX03	Center Spider	6 3/8 2.00	PX04	Copper Coil	12 3.70	1B02	980459	8 2.50
BOSCH			PX05	Copper Coil	14 1/2 4.50	CHEVROLET		
BX07	5, 5A, 7, 7A, R9, 39A, 200, Host, Hostess	7 2.00	PX06	Wire wound	8 1/2 2.25	1C01	364441, 600153, 600566	6 1/2 2.00
BX08	19, 20L, 31, 36, 37, 38, 73	9 5/8 2.75	PX07	Wire wound	10 3/4 2.50	1C02	600249, 600565	8 2.50
BX09	48158	9 5/8 2.75	PX08	Wire wound	14 1/2 3.65	CLARION		
BRUNSWICK			PHILCO (Leotone Free-Edge)			1C04		
BX11	B-1 3/4" V. C., centerspider	12 1/4 2.90	*PX15	40, 41, 42, 65, 76, 77, 87, 90, 95, 96, 111, 112	10 3/4 1.40	AR100	ARI100	5 1.50
BX12	D-1 1/2" V. C., centerspider	8 7/8 2.50	*PX18	3, 20, 21, 46, 70, 86, 90, 470, 490	8 3/4 1.25	COLONIAL		
BX13	E-1 1/2" V. C., centerspider	12 2.90	R. C. A.			1C05		
BX14	S-2" V. C., 3 pt. spider	12 1/4 2.90	*RX03	38, R18W, R27, R28, R28P, R28BW, M34, auto	4 3/4 1.00	1C06	106B, 182	8 2.75
COLONIAL			*RX34	R37, R37P, R38, R38P, 12, 120, 121, 122, 142B, 241B, 310	6 1/2 1.00	1C07	150	5 1.65
CX06	33, 38, LL18	12 1/4 2.90	RX05			1C07	164	6 2.25
CX08	36, LL19	9 5/8 2.50	47, R6, R7, R7A, R7DC, R9, R10, R12, R14, R15, RE16, RE16A, RE17, RE18, RE18A, RE19, R21, RO23, RAE29, CE29, RE34, R42, R48, RE73, R74, R76, R77, RE81, R70, R75, 210, P. M. Superhet	10 1/4 2.25	CROSLEY ROAMIO			
CROSLY			104, 60, 66, 80, 105	8 2.00	1C08			
CX17	305, 405, 42S, M45, 62S, 262, 391	9 2.50	106, RE20, R34, R35, R41AC, R41DC, R46, R47, R39, R50, R55, RE57, RAE79, R62, R64, R66, R67, RA79, R80, RS2, R86, 105, R106	10 1/2 2.50	1C09			
CX25	124, 125, 269	8 2.25	ROLA			1C09		
EDISON			FX08	104, 60, 66, 80, 105	8 2.00	DR, DS		
EJ08	R4, 5, 7, 8	11 1/4 2.90	FX11	106, RE20, R34, R35, R41AC, R41DC, R46, R47, R39, R50, R55, RE57, RAE79, R62, R64, R66, R67, RA79, R80, RS2, R86, 105, R106	10 1/2 2.50	EMERSON		
FADA			STEWART-WARNER			1E01		
FF03	No. 1755x, 15, 15B, 15C, 20, 32, early 25	8 1/2 2.75	SX05	R200a, 400, 440, 445, 565, 575, 900, 950 (3 pt. spider)	9 2.75	Auto set		
FF08	No. 1882x, 11A, 12A, 12B, 45, 48, 49, 65, 66, KU, KW	10 1/2 2.90	SX07	2 pt. spider	9 2.75	FORD		
GENERAL ELECTRIC			STROMBERG-CARLSON			1F01		
*GR03	B40, K40, K40A, K43, K48, K50R, K51P, B52, K52, K53, L53, K54P	5 1.00	SX11	10, 11, 12, 14, 19, 20, 25, 26, 27, 641, 642, 846	11 7/8 2.90	118 (Majestic 118)		
JENSEN			U. S. APEX GLORIATONE			GENERAL ELECTRIC		
JX06	D3, D4, D5, D6	9 1/2 2.90	UX02	8A—Speaker 2801	8 2.25	*1G01		
JX08	D7, D8, D8G	11 1/4 2.90	UX03	26—Speaker 2286	8 1/2 2.00	B40 (RCA M34)		
JX24	T1, T2	5 1.50	UX35	26A—Speaker 2467	8 2.00	HUPMOBILE		
JX28	T3	5 1.50	UX05	27—Speaker 1936	8 1/2 2.00	1H01		
MAGNAVOX			UTAH			G, H, R		
MX13	6, 7, 8, 9, 80, 90, 100, 104, 106, 108, 200, 400, 402, 404, 116, 118, 290, 410, 412, 414, 416, 418, 9900	8 3/4 2.75	UX09	2 pt. spider	5 1.50	MAJESTIC		
MX15		8 3/4 2.75	UX31	Cub—3 pt. spider	6 2.00	1M01		
MX17	G1-70, 71, 72	9 1.95	UX11	Cub—center spider	8 2.00	66, 116A, 118		
MX18	G2-70B, 72, 91, 92, 181, 131, 132, 163, 233	12 2.90	UX25	Large Cub—2 pt. spider	8 2.25	1M02		
MX21	G5, G8, G9-22, 23, 61, 62, 32, 50, 51, 52, 53	10 2.50	UX32	3 pt. spider—3/4" V. C.	8 2.25	110 (Magnavox)		
MX22	G6, G7, G20-20, 21, 30, 110, G10A	7 1/2 2.00	VICTOR			1M03		
MX26	G10B-151, 154, 155, 156, G10, G10A	7 1/2 2.00	VX01	RE32, 45, 52, 57, 75	8 1/2 1.50	110 (Utah)		
MX28	G11-201, 203, 204, 251, 253, 254, G11B, etc.	10 2.40	WRIGHT DeCOSTER			1M04		
MX30	G13-211, 214, 215, 254, 254, 353, G13B, G13C	12 2.25	WX02	345, 355	8 1/2 2.50	116		
MX32	G14-221, 223, 307, 351, 353, G14B, G14C, etc.	12 2.00	WX03	108, 208	10 2.75	66, 116A, 118		
MX36	G19-291, 293, 294, 314, 324, 393, 394, G19A, etc.	10 2.00	WX04	107, 207, 307	12 2.90	110 (Utah)		
MX48	G24-55, 59, 66, 75, 116A, 195, 400, 461, 463, 500, 560, 566, G24A, G24C, G24M	6 1.50	ZENITH			1M04		
MX41	G26A-370, 371, 373	5 1.40	ZC06	50, 52, 72, LL18	12 1/4 2.90	116		
MX42	G26C-55, 59, 75, 116, 195, 400, 400A, 411, 411A, 413, 413A, 500, 560, 566, G26B, G26D, etc.	5 1.45	ZB14	61, 62, 89	12 1/4 2.90	116		



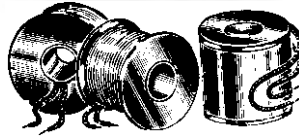
LEOTONE



PHONE AND VOICE COIL ASSEMBLY

REPLACEMENT FIELD COILS

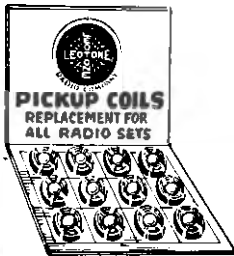
Part No.	Name	Ohms	List Price
APEX GLORIATONE			
AY07	26, 26A, 26P, T11500....		\$4.00
AY08	26P, T11500.....		4.00
AY09	27, T11500.....		4.00
ATWATER KENT			
AY18	46, 53, 55, 65.....	1000	6.00
AY19	46, 53, 55, 65.....	1700	6.00
BOSCH			
BY12	48.....	2250	6.00
BY13	58.....	2000	6.00
BRUNSWICK			
BY18	14, 21, 33.....	5000	8.00
BY20	15.....	1500	7.50
BY21	15.....	2500	8.00
BY22	16.....	2250	4.20
COLONIAL			
CY03	33AC, LL18.....	2500	5.50
CY03	33AC, LL18.....	6000	6.50
CY09	36, 38, LL19.....	2500	6.00
CY10	36, 38, LL19.....	8000	8.00
CROSLY			
CY30	M45.....	2500	4.80
CY31	57, 58, 59.....	10000	4.00



Part No.	Name	Ohms	List Price
EDISON			
*EJ05	All Models (Jensen JY05)	4500	\$6.00
JENSEN			
*JY03	D7, D8, D8G.....	1400	4.40
*JY04	D7, D8, D8G.....	2500	5.00
*JY05	D7, D8, D8G.....	4500	6.00
MAGNAVOX			
MY01	9" (medium), 12", 6, 7, 8, 9, 80, 90, 402, 405.....	2500	6.50
MY10	9" id.....	5000	7.00
MY02	9" id.....	7500	7.50
MAJESTIC			
MY24	G1.....	3100	8.00
MY26	G2.....	2730	8.00
MY26	G3.....	2730	7.50
MY27	G4.....	7650	7.50
MY28	G5.....	7650	7.50
MY34	G10B.....	1750	4.00

Part No.	Name	Ohms	List Price
PHILCO			
*PY30	20, 21, 70, 470, 790.....	3300	\$2.00
*PY33	65, 76, 77, 86, 87, 95, 96.....	2000	3.00
*PY32	65, 76, 77, 86, 87, 95, 96, 111.....	3100	4.50
R. C. A.			
RY10	106.....	550	4.20
RY11	106.....	6000	6.00
ROLA			
RY17	F6, K7, K9.....	1250	3.50
RY18	F6, K7, K9.....	1500	3.50
RY20	F6, K7, K9.....	T1800	4.00
RY21	F6, K7, K9.....	2500	3.50
RY22	F6, K7, K9.....	4700	4.00
RY27	F5, F5A.....	3000	3.28
STEWART-WARNER			
SY20	102, 104, 202, 204, 206, 6", Midget.....	10000	4.00
SY21	R200A, 400, 445A, 550, 565A, 900, 950.....	10000	8.00
STROMBERG-CARLSON			
SY27	10", 12", Regular type.....	2500	6.00
SY28	10", 12", Regular type.....	7300	6.50
TEMPLE			
TYP5	All models.....	2250	7.00
VICTOR			
VY07	RE32, 45, 52, 75.....	3000	5.50
ZENITH			
ZY03	50-52, LL18.....	2500	6.50

REPLACEMENT PICKUP COILS



LEOTONE replacement pick-up coils for most sets. Proper replacements for ATWATER-KENT, BRUNSWICK, GENERAL ELECTRIC, MAJESTIC, PHILCO, RCA, STROMBERG-CARLSON, VICTOR, WEBSTER (Small), and many others.

The coils are attractively mounted in 12's, on a folded card such as illustrated. Small, handy, and easy to replace.

Type	List Price
WRP01—Low Impedance.....	\$4.75 doz.
WRP02—High Impedance.....	9.00 doz.
WRP03—5000-ohm Impedance.....	10.50 doz.

GIANT A-KU-STIK REPAIR KIT



The GIANT A-KU-STIK repair kit contains one metal can (about 4 oz.) of A-KU-STIK Cement, one metal can (also about 4 oz.) of A-KU-STIK Thinner, one metal handle brush, and complete direction sheet for use.

The Cement is ideal for cementing speaker leads, voice coils, leathers, and rings, and radio coils, chokes, and loose wires. It will also insulate and impregnate. The Thinner can be used for loosening cemented parts and to cut cement.

This GIANT kit is the most popular seller of its type on the market. Remember that

A-KU-STIK STIKS TO ANYTHING. *List Price.....\$0.62½

SURE-SET SPEAKER SHIMS



LEOTONE recommends the SURE-SET SPEAKER SHIMS—16 celluloid shims—4 of each size of .005", .0075", .010", and .0125" in a handy little leather holder. Each size is of a distinctive color so that a set is easily selected.

These are the same shims as those used in our expert repair department for the past year. You have the benefit of our experience.

List Price.....\$0.55

CAST REPLACEMENTS

LEOTONE Radio Co. has instituted a new and complete department entirely devoted to "hard-to-get," rare and obsolete cast replacements. The following are a few of our numerous cast replacements. Complete data may be yours for the asking.

Fada Cast Replacements

Part No.	Name	List Price
858MP	Tuning Bracket Cast.....	\$1.50
872MP	Tuning Bracket Cast.....	1.50
869MP	Dial Cast with Numerals.....	2.15
871MP	Dial Cast with Numerals.....	2.15
878MP	Two Leg Speaker Bracket.....	1.50
888MP	Three Leg Speaker Bracket.....	2.75
901MP	Three Leg Speaker Bracket.....	2.75
1716x	Solid Tuning Drum—4½"x½".....	1.75
1724r	Tuning Shaft and Washers—2½".....	1.00
1724b	Tuning Shaft and Washers—2½".....	1.00

Fried-Eisemann Cast Replacements

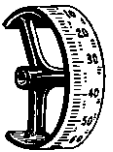
14-25	Dial Tuning Cast.....	1.88
24-26	Volume Control Cast.....	1.88

Crosley Cast Replacements

4899	Tuning Pinion for Set Numbers 26, 53, 57, 60S, 706, Gembox and Showbox.....	.55
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Miscellaneous Cast Replacements

R.C.A., G.E., and At. Kent Dial Rubber Grumit.....		\$0.75
Above Grumit in lots of 100.....		5.00



FADA No. 871MP



FADA No. 1716x

MAGNETIC COILS

LEOTONE Radio Co. stocks and supplies a great quantity of magnetic coils. Coils that are not in stock can be wound upon order.

Model	List Each
Atwater Kent.....	\$0.86
B. B. L.....	.86
Fada.....	.86
Farrand.....	.52
Freshmen.....	.52
Utah.....	.86



CELOTEX

Our Celotex Cutting Department, which we have been maintaining ever since our entry into Speaker business, is now releasing its services to the trade. All standard sizes in all standard thicknesses are in stock at all times: such as 12"x12", 18"x18", 24"x24", 36"x36" in ½", 1", or 1½" thickness. These sizes can be obtained with any size hole. Special sizes will be quoted on upon request. For information regarding prices consult your Jobber.



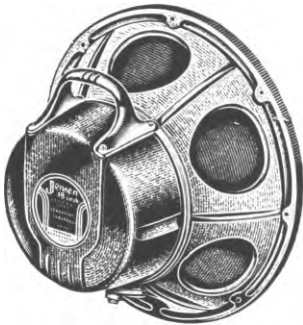
Jensen

FULL RANGE SOUND EQUIPMENT

Known all over the world for predominating high quality

Jensen Auditorium Speakers

Undeniably the Best Known and Respected High Quality Loudspeakers available . . . Recommended for every use where Efficiency and Accuracy of Reproduction are Prime Requirements.



18 Inch PM Speaker



14 Inch AC Speaker



18 Inch AC Speaker

A Distinguished New Member of the JENSEN Auditorium Family—The JENSEN 18" PM—Fully the equivalent of the well-known JENSEN 18" AC and DC operated speakers.

GENERAL DESIGN DATA

Principal Use: Series M Speakers are generally used where good over all performance is required, such as reproduction of both voice and music. Series V speakers provide predominant efficiency in the middle high frequency range and are especially recommended where the reproduction of voice is the principal requirement. Series L Speakers provide predominant efficiency in the low frequency range and are recommended only for use as part of a Jensen Full Range installation in conjunction with Filters and High Frequency Reproducers. Series HF provide remarkable extended range performance and are recommended only where the input source is free from high frequency distortion.

Frequency Response: 14-Inch Models: Low Frequency Cut Off on all types, 40 cycles. High Frequency Cut Off; Series L, 5000 cycles; Series M, 5000 cycles; Series V, 7000 cycles; Series HF, 9000 cycles. 18-Inch Models: Low Frequency Cut Off, on all types when mounted in Bass Reflex Enclosures, 30 cycles. High Frequency Cut Off; Series L, 3000 cycles; Series M, 5000 cycles; Series V, 8000 cycles; Series HF, 10,000 cycles.

Power Handling Capacity: 14-Inch Models: 18 watts continuous; 25 watts peak. 18-Inch Models: 25 watts continuous; 45 watts peak.

Efficiency: 14-Inch Models: About 400 per cent more efficient than an ordinary speaker having equivalent cone area. 18-Inch Models: About 200 per cent more efficient than 14-Inch Model.

Voice Coil Impedance: All Models, except PLJ-18, 8 ohms at 400 cycles; PLJ-18, 32 ohms at 400 cycles.

Input Transformer: Speakers are stocked less Input Transformers, but facilities are provided for attaching input transformers on all except PM Models. If Transformer is desired attached, add \$5.00 to list price and specify Impedance.

Connector Arrangements: AC and DC Models; screw terminal plugs and cover; PM Models; polarized twist lock plug assembly.

Baffle: For best results use Bass Reflex Enclosures described on Page D-22. Minimum Flat Baffle recommended, 4 feet by 4 feet; Maximum necessary ten feet square.

AC Designs: With Tube Rectifier, standard as shown below; other voltage or frequency design available on order.

DC Designs: With Field Coils, as shown below; other designs available on order.

PM Designs: Fully the equivalent in efficiency and power handling capacity of the 18" AC and DC designs.

Field Coil Wattage: Normal, 26 Watts; Maximum, 33 Watts; Minimum, 20 Watts.

Shipping Weight: 14-Inch: AC Model, 56 lbs.; DC Model, 46 lbs. 18-Inch: AC Model, 78 lbs.; DC Model, 68 lbs.; PM Models, 88 lbs.

TYPE NUMBERS and PRICES

EIGHTEEN INCH

Model	110v60cy.AC			110v25cy.AC			110v DC			220v DC			300v(FS-1)			Permanent Magnet		
	Type	List*	Net	Type	List*	Net	Type	List*	Net	Type	List*	Net	Type	List*	Net	Type	List**	Net
M18	5801	\$86.50	\$60.55	5802	\$93.50	\$65.45	5810	\$61.50	\$43.05	5811	\$61.50	\$43.05	5812	\$61.50	\$43.05	PMJ-18	\$136.90	\$95.83
L-18	5701	86.50	60.55	5702	93.50	65.45	5710	61.50	43.05	5711	61.50	43.05	5712	61.50	43.05	PLJ-18	136.90	95.83
V-18	5901	86.50	60.55	5902	93.50	65.45	5910	61.50	43.05	5911	61.50	43.05	5912	61.50	43.05	PVJ-18	136.90	95.83
HF-18	6001	89.50	62.65	6002	96.50	67.55	6010	64.50	45.15	6011	64.50	45.15	6012	64.50	45.15			

FOURTEEN INCH

M-10 AC	3005	73.50	51.45	3006	80.50	56.35	3054	48.50	33.95	3055	48.50	33.95	3063	48.50	33.95
M-20 DC															
L-10 AC	3907	73.50	51.45	3908	80.50	56.35	3950	48.50	33.95	3960	48.50	33.95	3962	48.50	33.95
L-20 DC															
V-10 AC	3105	73.50	51.45	3106	80.50	56.35	3154	48.50	33.95	3155	48.50	33.95	3162	48.50	33.95
V-20 DC															
HF-10 AC	3031	73.50	51.45	3034	80.50	56.35	3081	48.50	33.95	3084	48.50	33.95	3090	48.50	33.95
HF-20 DC															

* 8 ohm voice coil input only; if transformer is desired attached increase List Price \$5.00 and specify impedance desired.

** 8 ohm V.C. input only except PLJ which is 32 ohms; transformers cannot be mounted on these speakers.

Jensen

FULL RANGE SOUND EQUIPMENT

Known all over the world for predominating high quality

MODEL KM and KV REPRODUCERS

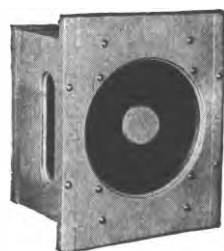
The Complete Loud Speaker—No Baffles Required



MODEL KM
with
BASS REFLEX

MODEL KM REPRODUCERS incorporating Jensen 8, 10, 12, 15 or 18" speakers consist of Jensen Concert Speakers contained in rigidly built, specially designed enclosures incorporating both **Peri-dynamic** and **Bass Reflex** principles. Thus, in KM Models extra octaves of low frequency performance are made available to an extent not possible even with an infinite baffle. Middle and high frequency response is improved and the speaker becomes a complete reproducer designed and built by Jensen. The use of haphazardly designed and built baffles is entirely eliminated at an extremely moderate cost and maximum performance ability is assured. Model KM Reproducers are recommended for every known application of the loud-speaker where the requirement is for general high quality performance—with emphasis on the quality and extent of low frequency response.

MODEL KV REPRODUCERS incorporate 8, 10 or 12" specially designed Jensen Speakers incorporated in a rigid enclosure of unique design. **Bass Reflex** principle is not used in these reproducers since they are intended for the best possible quality of "understandability" in the reproduction of speech. Low Frequency response is undesirable in such an objective and has, therefore, been sharply attenuated below a point determined by Jensen engineers. Model KV Reproducers are therefore, recommended for such uses as paging and calling, public speeches, stage and floor shows, schools and hospitals, announcing or any application where a high quality of understandable voice reproduction is required.



MODEL KV
for **VOICE**
REINFORCEMENT

SEPARATE ENCLOSURES

To insure maximum performance advantage from Jensen Peri-dynamic and Bass Reflex principles, the loud-speaker design must be accurately matched to the enclosure with which it is associated; therefore, the purchase and use of the complete reproducer is always preferred.

However, the performance of any speaker will be improved by use in one of these enclosures and in response to insistent demand the enclosures are now offered for sale separately.

MODEL KM and KV Peri-Dynamic REPRODUCERS IN KITS

MODEL KM REPRODUCERS—FOR VOICE AND MUSIC

Model	Stock No.	With Speaker	V.C.	Power† Handling Capacity	Average Low Freq. Cut-off	Relative Loudness Efficiency†	List Price	Net Price
KM- 81	ST-545	8" PM8C	6	8	58	X†	\$26.10	\$15.66
KM-101	ST-546	10" PM10C	6	9	43	1.4X	32.30	19.38
KM-101	ST-555	16" PM10H	8	10	43	2.3X	38.80	23.28
KM-121	ST-547	12" PM12C	6	10	39	1.6X	37.70	22.62
KM-121	ST-557	12" PM12H	8	12	39	2.5X	44.70	26.82
KM-121	ST-548	12" PM12B	8	14	39	4.0X	50.20	30.12
KM-121	ST-549	12" A12PM	8	15	39	6.3X	59.95	35.97
KM-151	ST-550	15" PM15B	8	15	35	4.5X	59.25	35.55
KM-151	ST-551	15" A15PM	8	16	35	7.0X	68.00	40.80
KM-181	ST-552	18" PMJ-18	8	25	30	9.5X	177.40	124.18
KM-181	ST-553	18" PVJ-18	8	25	30	9.5X	177.40	124.18

MODEL KV REPRODUCERS— FOR VOICE ONLY

KV- 8	ST-387	8" PM8C	6	8	150	X	16.10	9.66
KV-10	ST-389	10" PM10C	6	9	150	1.2X	19.75	11.85
KV-12	ST-393	12" PM12C	6	10	150	1.8X	23.90	14.34
KV-12	ST-394	12" PM12B	8	14	150	4.0X	36.40	21.84
KV-12	ST-395	12" A12PM	8	15	150	6.3X	46.15	27.69

* Less Input Transformers (see page D-24 for Transformers)

These Reproducers are Shipped Knock-Down to Save Freight

MODEL BR—(Enclosures Only)

Model	For Speaker	List Price	Net Price
BR- 81	8"	\$17.60	\$10.56
BR-101	10"	21.80	13.08
BR-121	12"	25.20	15.12
BR-151	15"	29.25	17.55
BR-181	18"	36.50	25.55

MODELS VO—(Enclosures Only)

VO- 8	8"	7.60	4.56
VO-10	10"	9.25	5.55
VO-12	12"	11.40	6.84

† "X" is an index value and the other figures in the column show how much greater loudness expressed in db. is obtained when electrical input remains constant and speaker efficiency increases. Thus Model A-15PM is seven db. louder than Model PM8C.

† Speaker power handling capacity as we use the term is accurate according to our standards for continuous and normal operation. It does not refer to physical ability of the speaker. We recognize that claims of 12 or 14 watts are made by some for an eight inch speaker no better than one for which we claim six watts but we rely on the reader to differentiate between conservative statements of fact and exaggerated claims.

Lensen

FULL RANGE SOUND EQUIPMENT

Known all over the world for predominating high quality

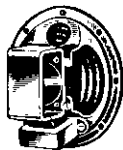
STANDARD SPEAKERS

FOUR, FIVE, SIX, EIGHT, TEN AND TWELVE INCH SPEAKERS
Field Coil and Permanent Magnet Designs

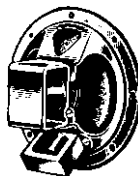


H4S and PM4FS

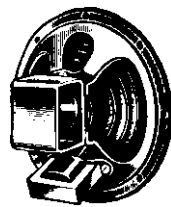
Exceptionally good speakers for use in radio receivers, low power public address and the like. Not to be confused with many cheaply made inefficient speakers. All speakers are completely dust-proofed and all are supplied less transformer but with facilities permitting easy attachment of the transformers listed to right. Mounting



H5S and PM5FS



H6S and PM6ES



F8RS and PM8DS

dimensions standard R.M.A. The permanent magnet models employ highly efficient permanent magnets which insure unlimited life. The sensitivity of these permanent magnet speakers is fully equivalent of the field coil type speakers. All field coil models have bucking coil.

FOUR AND FIVE INCH SPEAKERS SPEAKERS WITH FIELD COILS

Model	Stock No.	Impedance	Field Coil	List Price	Net Price
H4S	ST537	4 ohms	450	\$2.30	\$1.38
H4S	ST538	4 ohms	1000	2.30	1.38
H4S	ST539	4 ohms	3000	2.30	1.38
H5S	ST426	4500 ohms	3000	3.10	1.86
H5S	ST427	4 ohms	2750	2.40	1.44
H5S	ST558	4 ohms	1800*	2.40	1.44
H5S	ST449	4 ohms	1000	2.40	1.44
H5S	ST450	4 ohms	450	2.40	1.44
H5S	ST428	4 ohms	6 volt	2.40	1.44

PERMANENT MAGNET SPEAKERS

PM4FS	ST540	4 ohms		2.65	1.59
PM5FS	ST443	4 ohms		2.70	1.62
PM5DS	ST522	4 ohms		4.00	2.40

SIX INCH SPEAKERS SPEAKERS WITH FIELD COILS

H6S	ST429	4 ohms	2750	2.80	1.68
H6S	ST430	4 ohms	1800*	2.80	1.68
H6S	ST431	4 ohms	1000	2.80	1.68
H6S	ST432	4 ohms	6 volt	2.80	1.68
E6RS	ST565	4 ohms	2500	4.25	2.55
E6RS	ST566	4 ohms	1800*	4.25	2.55
E6RS	ST567	4 ohms	1000	4.25	2.55
E6RS	ST568	4 ohms	6 volt	4.25	2.55

PERMANENT MAGNET SPEAKERS

PM6ES	ST445	4 ohms		3.40	2.04
PM6DS	ST455	4 ohms		4.25	2.55

EIGHT INCH SPEAKERS SPEAKERS WITH FIELD COILS

F8RS	ST433	4 ohms	2500	4.00	2.40
F8RS	ST434	4 ohms	1800*	4.00	2.40
F8RS	ST435	4 ohms	1000	4.00	2.40
F8RS	ST436	4 ohms	6 volt	4.00	2.40
D8RS	ST437	4 ohms	2500	4.80	2.88
D8RS	ST438	4 ohms	1800*	4.80	2.88
D8RS	ST439	4 ohms	1000	4.80	2.88

PERMANENT MAGNET SPEAKERS

PM8FS	ST569	4 ohms		3.80	2.28
PM8DS	ST461	4 ohms		4.65	2.79
PM8GS	ST523	6 ohms		6.50	3.90

TEN AND TWELVE INCH SPEAKERS SPEAKERS WITH FIELD COILS

G10RS	ST440	6 ohms	2500	7.00	4.20
G10RS	ST441	6 ohms	1250	7.00	4.20
G12RS	ST469	6 ohms	2500	8.00	4.80
G12RS	ST470	6 ohms	1250	8.00	4.80

PERMANENT MAGNET SPEAKERS

PM10GS	ST466	6 ohms		7.50	4.50
PM12GS	ST475	6 ohms		8.75	5.25

*Tapped at 300 ohms.

SEPARATE TRANSFORMERS FOR STANDARD SPEAKERS For H4S, PM4FS, H5S, PM5FS, H6S, PM6ES, F8RS, PM8FS (4 ohm V.C.)

Stock Number	Primary Impedance	Size	List Price	Net Price
Z2359	500	1/2 x 1/2	\$0.70	\$0.42
Z2360	1500	1/2 x 1/2	.70	.42
Z2253	2500	1/2 x 1/2	.70	.42
Z2361	4500 c.t.	1/2 x 1/2	.70	.42
Z2255	7000	1/2 x 1/2	.70	.42
Z2362	10000 c.t.	1/2 x 1/2	.70	.42
Z2363	25000	1/2 x 1/2	.70	.42
ZP1020	Plate Adjustable	1/2 x 1/2	.90	.54
ZL2020	Line Adjustable	1/2 x 1/2	.90	.54

For E6RS, PM5DS, PM6DS, D8RS, PM8DS (4 ohm V.C.)

Z2364	500	5/8 x 3/4	.95	.57
Z2365	1500	5/8 x 3/4	.95	.57
Z2366	2500	5/8 x 3/4	.95	.57
Z2368	4500 c.t.	5/8 x 3/4	.95	.57
Z2369	7000	5/8 x 3/4	.95	.57
Z2371	10000 c.t.	5/8 x 3/4	.95	.57
Z2372	25000	5/8 x 3/4	.95	.57
ZP1021	Plate Adjustable	5/8 x 3/4	1.25	.75
ZY2007	Line Adjustable	5/8 x 3/4	1.50	.90

FOR MODELS PM8GS, PM10GS AND G10RS

Z2373	500	5/8 x 3/4	.95	.57
Z2375	2500	5/8 x 3/4	.95	.57
Z2377	4500 c.t.	5/8 x 3/4	.95	.57
Z2378	7000	5/8 x 3/4	.95	.57
Z2380	10000 c.t.	5/8 x 3/4	.95	.57
ZP1022	Plate Adjustable	5/8 x 3/4	1.25	.75
ZY2008	Line Adjustable	5/8 x 3/4	1.50	.90

FOR MODELS PM12GS AND G12RS

Z1520	500	3/4 x 3/4	1.25	.75
Z1643	4500 c.t.	3/4 x 3/4	1.25	.75
Z1642	7000	3/4 x 3/4	1.25	.75
Z1680	10000 c.t.	3/4 x 3/4	1.25	.75
Z1582	14000 c.t.	3/4 x 3/4	1.25	.75
ZX1004	Plate Adjustable	3/4 x 3/4	2.25	1.35
ZY2001	Line Adjustable	3/4 x 3/4	2.25	1.35

• **Model "X" Transformers** . . . Model "X" Adjustable Impedance Transformers are designed to match conventional "Plate" Impedance Values, and the following values have been selected: 4500 ohms, 7000 ohms, 10,000 ohms and 14,000 ohms. A center tap is provided at all these values for use with tubes connected in pushpull.

• **Model "Y" Transformers** . . . Input Transformers designed to match conventional "Line" Impedance Values, the values selected being 500 ohms, 1000 ohms, 1500 ohms and 2000 ohms, with no center tap.

Model ZP and ZL transformers are similar to types ZX and ZY respectively but are supplied with solder terminals only.

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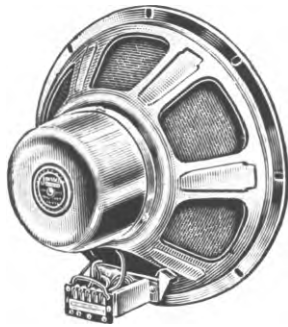
FULL RANGE SOUND EQUIPMENT

Known all over the world for predominating high quality

CONCERT SPEAKERS

SIX, EIGHT, TEN, TWELVE AND FIFTEEN INCH SPEAKERS

Field Coil and Permanent Magnet Designs



Models A-15 and A-15PM

These are heavy duty highly efficient speakers and are widely used for Public Address and high quality Radio and Phonograph applications. All speakers in the concert series, except Model PM6-C, are designed so that they may be used in the Jensen Type BR, BASS REFLEX Enclosures. All field coil models have bucking coils. Covers for the Magnetic structures are standard equipment on all models except PM6-C, PM8-C, PM12-B, and PM15-B. All PM Speakers, as well as Model A-12 and A-15 are dust-proofed.

Facilities are provided for easily attaching any of the transformers listed, but Speakers are supplied without transformers attached unless specifically ordered in which case increase list price by \$1.00, plus list price of transformer.

Twelve inch and all fifteen inch speakers are available with cones having a frequency response that extends to 7500 cps. Speakers having this type response are somewhat less sensitive and have slightly less power handling capacity as a result, and are only recommended where the input is known to be free from distortion particularly in the extended high frequency range.

SPEAKERS WITH FIELD COIL

Model	Stock No.	VOICE COIL		FIELD Resistance	List Price	Net Price	
		Imp.	Watts				
C8-RS	ST-457	8	8	2500	\$8.65	\$5.19	
C8-RS	ST-459	8	8	1000	8.65	5.19	
C10-RS	ST-463	8	9	2500	9.40	5.64	
C10-RS	ST-464	8	9	1250	9.40	5.64	
C12-R	ST-172	8	10	2500	10.25	6.15	
C12-R	ST-176	8	10	1250	10.25	6.15	
	Std. Fidelity	*High Fidelity					
A-12	ST-331	ST-337	8	15	860	17.25	10.35
A-12	ST-333	ST-339	8	15	2500	17.25	10.35
A-12	ST-335	ST-341	8	15	5400	17.25	10.35
B15-X	ST-315	ST-314	8	15	2500	18.25	10.95
B15-X	ST-319	ST-318	8	15	1250	18.25	10.95
A-15	ST-311	ST-310	8	17	860	23.00	13.80
A-15	ST-307	ST-306	8	17	2500	23.00	13.80
A-15	ST-487	ST-488	8	17	5400	23.00	13.80

SPEAKERS WITH PERMANENT MAGNET

Model	Stock No.	VOICE COIL		↑Gap Energy	List Price	Net Price	
		Imp.	Watts				
PM6-C	ST-238	6	6	1.10	\$8.00	\$4.80	
PM8-C	ST-230	6	8	1.36	8.50	5.10	
PM10-C	ST-246	6	9	1.36	10.50	6.30	
PM10-H	ST-468	8	10	2.54	17.00	10.20	
	Std. Fidelity	*High Fidelity					
PM12-C	ST-250	6	10	1.36	12.50	7.50	
PM12-H	ST-476	ST-529	8	12	2.54	19.50	11.70
PM12-B	ST-254	ST-282	8	14	6.07	25.00	15.00
A12PM	ST-257	ST-260	8	15	7.57	34.75	20.85
PM15-B	ST-304	ST-302	8	15	6.07	30.00	18.00
A15-PM	ST-300	ST-298	8	17	7.57	38.75	23.25

* High Frequency Response extended to 7500 cps. Not Recommended for General P. A. Applications.

↑ Gap Energy expressed here in millions of ergs; indicates relative efficiency of speakers.

Model "X" (Plate Type) Adjustable transformer gives these values; 4500, 7000, 10,000 and 14,000 ohms all with or without center tap. Model "Y" (Line Type) Adjustable transformer gives these values; 500, 1,000, 1,500 and 2,000 ohms. Fixed Impedance Transformers are available with any value of input impedance at 25% increase in price. Specify impedance desired.

SEPARATE TRANSFORMERS

FOR MODELS PM12H AND PM10H

Stock No.	Input Impedance	V. C. Imp.	Size	List Price	Net Price
Z1520	500	6	3/4 x 3/4	\$1.25	\$0.75
Z1643	4500 c.t.	6	3/4 x 3/4	1.25	.75
Z1642	7000	6	3/4 x 3/4	1.25	.75
Z1680	10000 c.t.	6	3/4 x 3/4	1.25	.75
Z1582	14000 c.t.	6	3/4 x 3/4	1.25	.75
ZX1004	Plate Adjustable	6	3/4 x 3/4	2.25	1.35
ZY2001	Line Adjustable	6	3/4 x 3/4	2.25	1.35

FOR MODELS C8RS, C10RS AND C12R

Z2383	3000 c.t.	8	3/4 x 3/4	1.25	.75
Z1879	4500 c.t.	8	3/4 x 3/4	1.25	.75
Z1880	7000	8	3/4 x 3/4	1.25	.75
Z2384	10000 c.t.	8	3/4 x 3/4	1.25	.75
Z1881	14000 c.t.	8	3/4 x 3/4	1.25	.75
ZX1002	Plate Adjustable	8	3/4 x 3/4	2.25	1.35
ZY2002	Line Adjustable	8	3/4 x 3/4	2.25	1.35

FOR MODELS PM10H, A-12, B15X, A12PM, PM12B, PM12H and PM15B

Z1882	500	8	7/8 x 7/8	1.75	1.05
Z1971	3000 c.t.	8	7/8 x 7/8	1.75	1.05
Z2385	5000 c.t.	8	7/8 x 7/8	1.75	1.05
Z1884	6600 c.t.	8	7/8 x 7/8	1.75	1.05
Z1885	7000	8	7/8 x 7/8	1.75	1.05
Z1886	10000 c.t.	8	7/8 x 7/8	1.75	1.05
Z1887	14000 c.t.	8	7/8 x 7/8	1.75	1.05

ZX1005 Plate Type Adjustable

ZY2003	Line Type Adjustable	8	7/8 x 7/8	2.75	1.65
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ZY2003 Line Type Adjustable

	Adjustable	8	7/8 x 7/8	2.75	1.65
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FOR MODELS A-15 AND A-15PM

Z1888	500	8	1 x 1	3.00	1.80
Z2386	3000 c.t.	8	1 x 1	3.00	1.80
Z2387	5000 c.t.	8	1 x 1	3.00	1.80
Z1890	6600 c.t.	8	1 x 1	3.00	1.80
Z2388	7000	8	1 x 1	3.00	1.80
Z1891	10000 c.t.	8	1 x 1	3.00	1.80
Z2241	14000 c.t.	8	1 x 1	3.00	1.80
ZX1007	Plate Type Adjustable	8	1 x 1	3.75	2.25
ZY2005	Line Type Adjustable	8	1 x 1	3.75	2.25

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EXTENDED RANGE LOUDSPEAKERS

TYPE "J" SPEAKER — HIGH FIDELITY REPRODUCERS

These new speakers are especially suited for use with F-M receivers, Television receivers, High-Fidelity phonographs and similar equipment, where there is a need for extended-range high-fidelity reproduction.

TYPE JHP-51, DUAL SPEAKER: Good performance is available to 12,000 cps. in the Model JHP-51, and there is substantial contribution even to 15,000 cps. Low frequency response depends upon the type of baffle employed. With cabinets employing the Bass-Reflex principle, Models CA and MT, for example, low frequency reproduction in the 50 cps. range is insured. This wide frequency range is accomplished through clever design practice; a low frequency speaker reproducing the range below 2000 cps. and a special high frequency unit reproducing the range above 2000 cps. A uniquely designed two-channel network forms an integral part of the Dual Speaker System. Power handling capacity, 15 watts. Three values of input impedance available—500 ohms, 5000 ohms with center tap, and 10,000 ohms with center tap.

TYPE PM12-CT: A moderately priced twelve-inch speaker designed for extended-range high-fidelity performance such as that required in F-M and Television receivers and high quality phonographs. Uniform response to 8000 cps. with substantial contribution even to 10,000 cps. Good low frequency response to 50 cps. may be had when used in Bass-Reflex Cabinets such as types MT and CA. Power handling capacity 7 to 9 watts. Voice Coil impedance: 6 ohms.

TYPE PM8-CT: An exceptional eight-inch speaker having extended high frequency range to 10,000 cps. For use in the same applications as the PM12-CT above and recommended where size and moderate cost are controlling factors. Power handling capacity: 6 watts. Voice Coil impedance: 6 ohms.

TYPE CA CABINETS: Handsomely designed and finished cabinets of genuine striped walnut, available in two sizes; for twelve-inch and fifteen-inch speakers. JENSEN Bass-Reflex principle incorporated.

TYPE MT CABINETS: Ruggedly constructed plywood cabinets of durable brown lacquer finish with contrasting trim with Bass-Reflex. Three sizes available; for eight, twelve and fifteen-inch speakers.

HIGH FIDELITY REPRODUCERS: Factory built combinations of cabinets and speakers described above. As such, these reproducers provide an absolute maximum of performance.

HIGH FIDELITY SPEAKERS AND REPRODUCERS

Model	Stock Number		List Price	Net Price
PM8-CT	ST-560	Speaker only, 6 ohms input*	\$9.00	\$5.40
PM12-CT	ST-572	Speaker only, 6 ohms input*	14.50	8.70
CRT-12	ST-577	Complete Reproducer,		
		in Type CA Cabinet.....	55.25	33.15
MT-8C	ST-559	Complete Reproducer,		
		in Type MT Cabinet.....	29.50	17.70
MT-12C	ST-571	Complete Reproducer,		
		in Type MT Cabinet.....	43.50	26.10

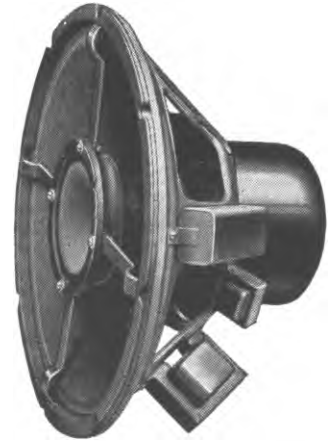
DUAL SPEAKER SYSTEMS

JHP-51	ST-583	500 Ohms Input.....	\$46.50	\$27.90
JHP-51	ST-584	5000 CT Ohms Input.....	46.50	27.90
JHP-51	ST-585	10000 CT Ohms Input.....	46.50	27.90
CRJ-51	ST-574	500 Ohms Input.....	94.25	56.55
CRJ-51	ST-575	5000 CT Ohms Input.....	94.25	56.55
CRJ-51	ST-576	10000 CT Ohms Input.....	94.25	56.55
MTJ-51	ST-578	500 Ohms Input.....	79.00	47.40
MTJ-51	ST-579	5000 CT Ohms Input.....	79.00	47.40
MTJ-51	ST-580	10000 CT Ohms Input.....	79.00	47.40

* Special Transformers available at List Price of \$1.75 (\$2.25 if attached to speaker). Specify Impedance.

CABINETS ONLY

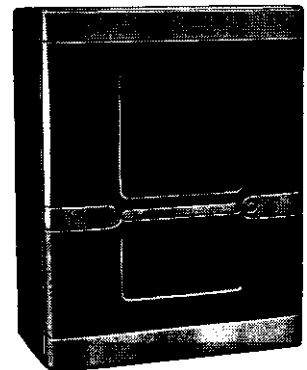
Model	Size	For Speaker	List Price	Net Price
	Wdth. Hght. Dpth.	Size	(Less Spkr.)	(Less Spkr.)
MT-81	17 1/4" x 23 3/8" x 11"	8"	\$19.25	\$11.55
MT-121	23 1/4" x 30 1/8" x 12 5/8"	12"	27.65	16.59
MT-151	25" x 33 1/4" x 13 5/8"	15"	31.25	18.75
CA-12	27 3/4" x 31 1/2" x 12"	12"	39.50	23.70
CA-15	27 3/4" x 31 1/2" x 14"	15"	46.50	27.90



Type JHP-51



Illustrating
CA-12 and CA-15 Cabinet
CRJ-51 and CRT-12
Reproducer



Illustrating
MT Cabinet
MTJ-51, MT-i2C and MT-8C
Reproducer

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JENSEN Type "S" Peri-Dynamic Projector . . . 15-25 WATTS CAPACITY

GENERAL DESIGN DATA

JENSEN Type "S" Peri-Dynamic PROJECTOR is a positive innovation in the public address field, not to be confused with the practice of associating conventional loud speakers with whatever horn physical dimensions permit. The JENSEN Peri-Dynamic PRINCIPLE employed

in this projector seals the especially designed loud speaker within an enclosure, the air stiffness within the enclosure being exactly suited to the requirements of sound radiator. The result in acoustic performance is to sharply improve the middle frequency response and to impart that quality of crispness and intelligibility so essential to the reproduction of sound in public address applications. There is no radiation from the back of the Projector because there are no openings in the chamber within which the loud speaker is sealed. This feature is of great advantage in eliminating feedback trouble.

Type "S" Projector is constructed of heavy sheet steel with strong cast, bulk-head between horn and loud speaker enclosure. Vibration in all metal parts due to mechanical modes is reduced to a minimum by suitable strengthening and clamping. The whole structure is rigid and strong, designed to stand the physical abuse to which equipment of this kind is often subjected.

Loops are attached to the Projector so that it may be suspended by wires, and a swivel mounting stand is also available. Finish is in durable blue-grey lacquer.

Electrical access to the loud speaker is gained by a strong bayonet type separable plug and socket assembly. This is a feature of great convenience.

SPECIAL LOUD SPEAKER EMPLOYED

The loud speaker employed in Type "S" Peri-Dynamic Projector is designed specifically for the purpose. It is not recommended in other applications. The diaphragm is approximately 7 inches in diameter and the voice coil $1\frac{1}{4}$ inches in diameter. A heavy permanent magnet accounts for unusually high efficiency attained by the loud speaker. The air gap energy value is 2.54 million ergs. Weight of loud speaker alone is $6\frac{1}{2}$ lbs.

POWER HANDLING CAPACITY

Power handling capacity is 15 to 25 watts, depending upon inherent distortion in the system and permissible distortion in the acoustic output. Peak capacity is 25 watts.

IMPEDANCE

The voice coil of PAH-8 loud speaker used in Type "S" Projector is 8 ohms. Transformers are available to match other impedances in accordance with list below, and loud speaker is equipped with bracket so that transformer may be conveniently attached.

FREQUENCY RESPONSE

Frequency response of Type "S" Projector is designed for general purpose speech and music reinforcement. Normal low frequency cut-off is 110 cps., but lower frequencies when applied through the system contribute substantially to the acoustic output. Middle frequency response is particularly good and high frequency response is maintained at good efficiency to 5500 cps. The polar characteristic is superior to other devices of this kind to the extent of the exclusive advantages acquired by use of a specially designed loud speaker, Peri-Dynamic Principle and correctly designed exponential horn.

WEATHERPROOFING

Except for opening into horn the loud speaker is completely weatherproofed. Speaker enclosure is sealed against cast bulk-head with neoprene gasket. When not in use Projector Bell may be closed with weatherproof cover No. ST-570. The diaphragm is treated to effectively resist effects of weather, voice coil opening is sealed and heavy close mesh screen is installed over the speaker diaphragm to prevent physical damage and the direct contact of weather. There is no intent to imply that the diaphragm is prepared to withstand, without deterioration, the continued application of water or severe weather. However, we consider the device fully as capable in this respect as other similar products said to be "weatherproof"—and in many respects more so. The validity of such statements depend primarily upon what the term "weatherproof" connotes when applied to equipment of this kind.

PRICES

	List Price	Net Price
SPH-81 Projector Complete (Less Stand)	\$52.00	\$31.20
EA-5 Stand only	5.00	3.00
S-81 Projector only (Less Loud Speaker and Stand)	36.00	21.60
PAH-8 Loud Speaker only	16.00	9.60
ST-570 Weatherproof Cover for Projector Bell	2.00	1.20
Z-2800 Transformer, 500 to 8 ohms	1.25	.75
ZY-2002 Transformer, adjustable to 8, 500, 1000 or 2000 ohms	2.25	1.35

ATLAS SOUND CORPORATION



ATLAS "MORNING GLORY" Type Exponential Projectors Double Re-entrant Air Columns . . Permanent Magnet Compression Units



- ★100% Storm-proof . . . Non-resonant . . . Compact
- ★High Fidelity . . . Efficient . . . Directional

Transfer Efficiency . . . When figuring in terms of acoustical transfer efficiency, it is generally admitted that a compression type speaker unit with an air column trumpet possesses the highest ratio of electrical watts input to sound pressure output. The many years of experience that Atlas Sound technicians have had in designing and manufacturing this type of reproducer . . . has now resulted in speaker efficiency that has never, heretofore, been obtained.

Coverage . . . Adverse, or cross wind conditions . . . which normally disperse low intensity sound projection . . . have little effect on the sound beam emitted by these high-velocity output projectors. The sound beam, upon being directed to the area requiring coverage, will produce a "Splash Effect" and thereby cover large areas with uniform-intensity sound.

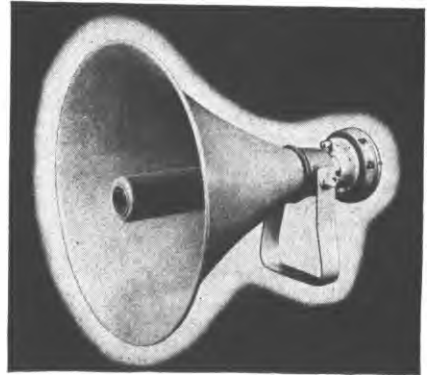
Microphone Feedback . . . The directional characteristics and total absence of rear sound generation minimizes feedback or acoustic "howl." The flat frequency response is also of great importance in eliminating feedback at certain peaked frequencies.

Universal Application . . . These projectors have a universal application . . . indoors . . . outdoors . . . and sound truck. The reflexed construction results in a considerable reduction in overall length.

Bell Openings: Model DR-72, 29"—Model DR-42, 21".

At left . . . Model DR-72 shown with malleable iron mounting bracket supplied at no extra cost, and PC-1 protective cover.

At right . . . Model DR-42 with bracket supplied.



Heavy Duty Construction . . . All integral projector sections are held together with solid malleable iron castings. The flared projector parts are of heavy-gauge aluminum finished in a battleship gray enamel. All cast parts are finished in a dark gunmetal shrivel. The method of fastening the brackets to the trumpets is such that continuous vibration cannot cause damage.

Model		Overall Length	Air Column Length	Frequency Cut-Off	Projection Angle	List Price
DR-42	Projector and Bracket	17½"	3½ Feet	140 Cycles	80°	\$20.00
DR-72	Projector and Bracket	25"	6 Feet	90 Cycles	100°	\$47.50

Model PC-1 Unit Cover . . . protects binding posts . . . double-seal protection . . . LIST \$2.50

"DYNA-FLUX" P. M. COMPRESSION UNITS



Model		Normal Power*	V. C. Impedance	List Price
PM-23	Compression Unit	18 watts	15 ohms	\$30.00
PM-25	Compression Unit	20 watts	15 ohms	\$45.00
PM-26	"Hi-Fi" Model	20 watts	15 ohms	\$50.00

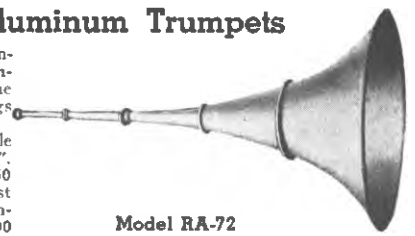
ATLAS SOUND HORN ADAPTORS

Model U-2H . . . One unit, two horns with standard 1½"-18 threads. List \$10.00
 Model U-3H . . . One unit, three horns, standard threads. List \$13.50
 Model H-2U . . . One horn, two units, standard threads. . . . List \$10.00
 Model WEB . . . Western Electric unit to standard thread horn. . . . List \$3.50



6 Ft. and 3½ Ft. Straight Aluminum Trumpets

True Exponential Design . . . Guaranteed Storm-proof . . . Non-Resonant Heavy Gauge Metal Spinings . . . Solid Cast Aluminum Tone Arms . . . Tone arms supplied with convenient loose brass couplings for attaching units with standard 1½"-18 threads.
 Model RA-42 . . . 3½ Foot Model . . . has a single cast tone arm which is 17" long. Bell opening 23". Shipping Weight 11 lbs. . . . List \$27.50
 Model RA-72 . . . 6 Foot Model . . . has two cast throat sections which total 43" in length. Bell opening 32". Shipping Weight 21 lbs. . . . List \$55.00



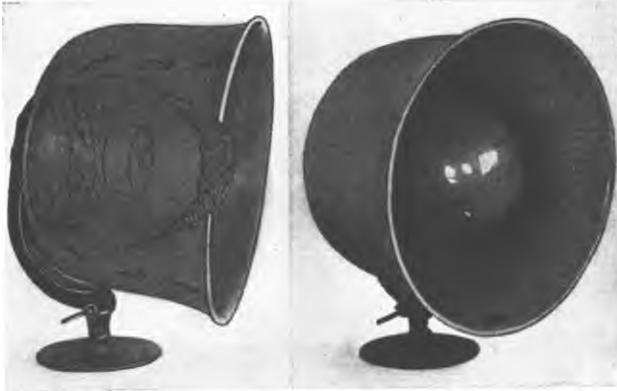
Model RA-72



ATLAS SOUND CORPORATION

"MARINE HORNS" WITH P. M. SPEAKERS

- ★ 100% Protection Against Weather, Mechanical Damage
- ★ Ideal For Sound Truck, Indoor, Outdoor Application



Phantom view shows internal construction of WX-8 Horn and WX-B Fixture and Base. Cone speaker is protected against weather and mechanical damage by bullet-shaped, acoustic felt-lined housing.

"WX" Marine Horns will withstand a direct driving rain without damage to the cone speaker . . . Physical damage is also impossible because the cone speaker is mounted in an inverted position, facing inside the horn. The bullet-shaped housing is acoustically treated with heavy felt to absorb back pressure and to prevent resonance conditions. All spinnings are heavy gauge aluminum, non-resonant, and finished in a weatherproof battleship gray enamel. All speaker and mounting hardware supplied is cadmium-plated to resist corrosion.

Two Sizes . . . For 8" and 12" Speakers . . . The Model WX-8 for 8" speakers has a bell opening of 18" and a depth of 12". The Model WX-12 for 12" speakers has a bell opening of 24" and a depth of 16".

Mounting Fixture and Base . . . Easy, convenient mounting for sound truck, indoor walls, outdoor locations, and portable use. The heavy cast back plate, goose-neck, and base are finished in durable black crackle.

Speaker Units . . . The speaker units supplied are especially designed to perform with the highest efficiency in connection with the Marine Horns. Voice coil imp. 6 ohms on all speakers.

Model		Speaker Size	Shipping Weight	List Price
WX-8	Horn Only	8"	9 lbs.	15.50
WX-8HL	Horn and Speaker	8" (16 watt)	15 lbs.	27.00
WX-8LL	Horn and Speaker	8" (8 watt)	14 lbs.	20.25
WX-12	Horn Only	12"	18 lbs.	30.00
WX-12SL	Horn and Speaker	12" (14 watt)	24 lbs.	39.50
WX-B	Fixture and Base (for WX-8 Horn)		12 lbs.	6.00
WX-C	Fixture and Base (for WX-12 Horn)		17 lbs.	7.00

Universal Line Matching Transformers can be supplied upon order. Primary tapped at 500, 1000, 1500, 2000 ohms. Add \$2.00 to the list price of WX-12SL and WX-8HL (heavy duty 7/8" core). Add \$1.25 to list of WX-8LL (5/8" core).

Original Stormproof 'MARINE MIDGET' P. M. SPEAKER

The inverted reflex design of the WX-5SP offers an air column length of 15" . . . This feature aids the normally efficient cone unit to perform with a maximum ratio of power input to sound pressure output. The frequency response of the speaker is wide in range, permitting fine reproduction of music and speech. The WX-5SP is ideal for use as a microphone in "talk-back" systems.



Complete weather and mechanical protection . . . Dependable operation can be expected with a driving rain beating directly into the bell opening. The speaker is also protected from mechanical damage.

Construction . . . The entire horn is constructed of heavy gauge aluminum finished in a durable battleship gray enamel. An adjustable steel mounting bracket is supplied at no extra cost.

P. M. Speaker Unit . . . A Permanent Magnet type speaker unit with a conservative power rating of 5 watts is included with the horn. Voice coil 3.5 ohms. Overall size of horn: Bell 10", Overall Depth 8". Shipping Weight 5 lbs.

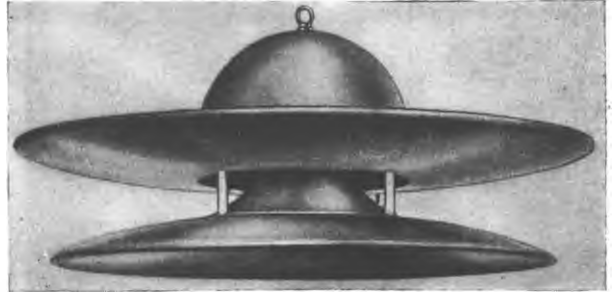
Model WX-5SP Horn, Speaker, and Bracket.....List Price \$10.50

ATLAS 360° "CHANDELIER" Speaker Baffles

- ★ New Acoustic Design Eliminates Feedback
- ★ Distinctive Styling
- ★ Easy Installation

Uniform 360° Sound Coverage . . . Minimum Feedback . . . The radial sound dispersion is smooth and uniform over a complete 360° circular area. The microphone can be placed directly under the baffle, keeping the acoustic feedback to a minimum.

Pleasing Sound Effect . . . The effect created by the "Chandelier" speaker baffle is most desirable inasmuch as the sound originates from a source in close proximity to the microphone.



Construction . . . Dimensions . . . The Atlas "Chandelier" baffle is built to accommodate a 12" cone speaker. The spinnings are of heavy gauge steel, finished in a distinctive pearl gray enamel. Large size mounting loop supplied on top of baffle makes installation simple, allowing suspension from a single ceiling point in the same manner as a lighting fixture. Size: Overall Diameter 31", Height 14". Shipping Weight 21 lbs.

12" Speaker Unit . . . The Permanent Magnet Speaker supplied is especially designed to perform with the highest efficiency in connection with the L-360. Voice coil imp. 6 ohms. (Shipping Weight with speaker 27 lbs.)

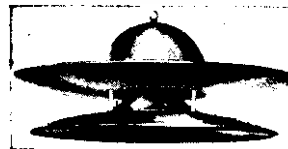
Model L-360 "Chandelier" Baffle.....List Price \$25.00

Model L-360SL (Baffle with Speaker).....List Price \$34.50

Universal Line Matching Transformer (primary 500, 1000, 1500, 2000 ohms) can be supplied by adding \$2.00 to list price of L-360SL.

360° "CHANDELIER, JR." P. M. SPEAKER

Ideal Speaker For Inter-Communication Systems . . . The Junior is particularly suitable for paging and call systems, and will also reproduce music with good fidelity. Made of heavy gauge aluminum finished in pearl gray enamel. Overall Diameter 17", Height 7". Shipping Weight 6 lbs.



Speaker Unit . . . The S-360SP comes complete with 5" Permanent Magnet type cone unit. Conservative rating 5 watts. Voice coil 3.5 ohms.

Model S-360SP Baffle with Speaker.....List Price \$12.50

"Super-Power" Cone Projector For 8" Heavy Duty Speakers

Suitable For High-Powered Installations . . . The characteristics of this projector make it particularly suitable for large stadiums, chime systems, industrial yards, airports, race tracks, armories, sound trucks . . . where power and sound direction are the principal requirements.



Construction . . . Dimensions . . . The air column is spun from heavy gauge aluminum. The speaker housing is a heavy steel pressed pot. Finished in battleship gray weatherproof lacquer. Bell Diameter 24", Total Length 36". Shipping Weight 9 lbs. (With unit 17 lbs.).

Horn with Speaker Unit . . . The Permanent Magnet speaker supplied will perform with the highest efficiency in connection with the G-8. Audio power rating 14 watts, voice coil 8 ohms.

Model G-8 Air Column Horn.....List Price \$22.00

Model G-8HL Horn and Unit.....List Price 33.50

Mounting Fixture . . . and Base . . . Saddle section and 1/4" pipe extension can be used with standard pipe fittings. Base supplied. Finish is a durable black crackle. Shipping Weight 8 lbs.

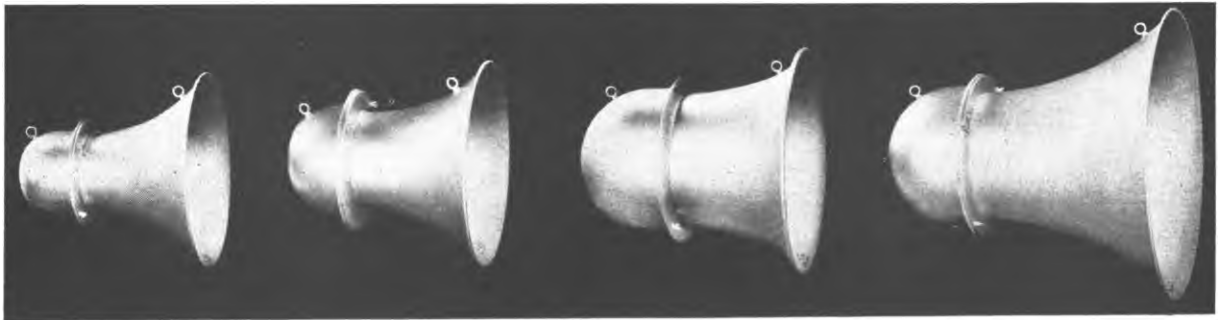
Model ST-9 Fixture and Base.....List Price \$4.00

ATLAS SOUND CORPORATION



ATLAS PARABOLIC DEFLECTOR Baffles

★ For 6" — 8" — 10" — 12" Cone Speakers



AM-6

B-810

AM-10

P-16

Most Complete Line of Parabolic Deflectors . . . Atlas Sound manufactures a complete line of parabolic baffles for all size speakers . . . for every p. a. application. All models are constructed of steel and aluminum heavy-gauge smooth spinings.

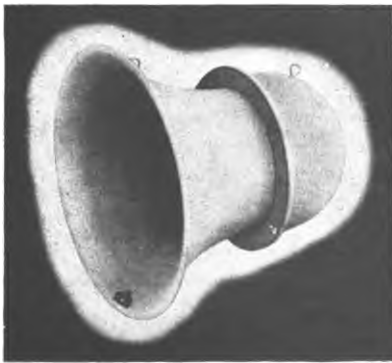
Inter-locking Flange Construction . . . The inter-locking flange is an exclusive Atlas design that increases the strength and eliminates rain

leakage at the seam where the two sections of the baffle are joined.

No Drilling Necessary . . . The cone speaker is securely held in position with the same bolts that hold bell and housing sections together. No additional mounting holes are required. Cadmium-plated hardware, and two mounting loops are supplied for hanging.

Model	Speaker Size	Bell Opening	Bell Length	Total Length	Construction	Finish	Shipping Weight	List Price
AM-6	6"	15"	10"	15"	All-Aluminum	Aluminum	4 lbs.	7.50
B-810	8 or 10"	15"	10"	16"	All-Aluminum	Aluminum	4 lbs.	7.75
AM-10	12"	17"	10½"	20"	Steel Housing	Aluminum	6 lbs.	8.00
P-16	12"	22"	16"	26"	Steel Housing	Aluminum	8 lbs.	13.00

Armor-Plate De Luxe Baffles



INDESTRUCTIBLE . . . Atlas all-steel, non-resonant "Armor-Plate" Baffles will resist the severest type of field service. Exclusive inter-locking flange construction is used to eliminate rain leakage at point where the two baffle sections are joined. Finish is a special baked blue-gray crackle that adequately protects the steel parts from rust and corrosion.

MB-12 De Luxe Model . . . includes metal-cloth (MC) screen for protecting the cone. "Snap-on" weatherproof cover (WC) is supplied for covering bell edge during extreme stormy conditions. Rear housing lined with absorbent acoustic felt (AF).

SB-12 (less accessories) . . . Identical to the MB-12, but does not include MC, WC, and AF accessories. Bell Diameter (both models): 17". Total Length 20". These two models available for 12" speakers only. All speaker mounting hardware and hanging loops supplied. Shipping Weights: MB-12 9 lbs., SB-12 7 lbs.

Model MB-12 De Luxe Baffle.....List \$14.00
Model SB-12 (less accessories)..List \$11.50



ST-8



MF-10



AS-10

BAFFLE FIXTURES and FLOOR STANDS

Atlas Baffle Fixtures offer easy, convenient mounting for horns and baffles on sound truck, wall, and other surfaces . . . Brackets built for rugged use and include large wing nut to secure baffle in any position. Finish is a durable black crackle.

SA-10 Saddle Fixture Only . . . Includes saddle bracket, ratchet, and wing nut arrangement. End of the lower casting has ½" female pipe thread, making it adaptable to standard pipe fittings. Shpg. wt. 4 lbs.

Model SA-10 Saddle.....List \$2.50

ST-8 Complete Fixture and Base . . . (illustrated) has a heavy iron pipe stem and sturdy base casting. Ideal for sound truck and wall mounting. Height Overall 12". Base 8". Shipping Weight 8 lbs.

Model ST-8 Fixture.....List \$4.00

MF-10 Heavy Base Floor Stand . . . A 35 lb. floor stand with a tripod base that adjusts itself on uneven surfaces. Heavy outer pipe has an O. D. of 1½". Finish is a durable black crackle. Adjustable from 5 to 9 ft. with locking-wheel adjustment permitting permanent mounting.

Model MF-10 Stand.....List \$12.50

AS-10 Portable Lightweight Stand . . . offers maximum portability in a distinctive 10 lb. stand. Telescoping seamless steel tubes permit height adjustment to 8 ft. Rubber-tipped folding legs offer extreme stability. Fittings finished in silver. Stand finish is dull gloss black enamel. Shipping Weight 11 lbs.

Model AS-10 Stand.....List \$12.50

The MF-10 and AS-10 are suitable for use with AM-10, P-16, SB-12, MB-12 Parabolic Baffles, "WX" Marine Horns, and G-8 Projectors.

"MUSIC BOX"



Walnut Acoustic Enclosures

Modern Musical Motif . . . The Atlas Sound "Music Box" sets a new style note in walnut acoustic enclosures. The distinctive design makes the cabinet extremely suitable for the richest room interiors. The specially selected natural-grain walnut used in the "Music Box" is expertly finished with lustrous lacquers to retain and enhance the natural wood grains.

Sturdy Construction . . . The "Music Box" is firmly assembled with inner glue-block construction. Attractive Acoustic-Cloth grille sets off the musical design of the cabinet. Complete mounting hardware supplied.

Model AE-8 . . . For 8" Speakers . . . Dimensions: 12½" High, 11" Wide, 7½" Deep at top end. Shipping Weight 4 lbs. List Price \$5.75

Model AE-12 . . . For 12" Speakers . . . Dimensions: 15½" High, 14" Wide, 10" Deep at top end. Shipping Weight 8½ lbs. List Price \$7.50

ATLAS BAFFLE FITTINGS, AND ACCESSORIES

RUBBER "SNAP-ON" RIM DAMPENER . . . Slotted rubber-rim dampener can be supplied in any specified length to encircle the bell edge of any Atlas Sound horns or baffles.

Model SO Rubber Rim List Price \$.25 Per Ft.

Model WC . . . Snap-on weatherproof rain cover for bell of AM-10, or SB-12 List Price \$1.00

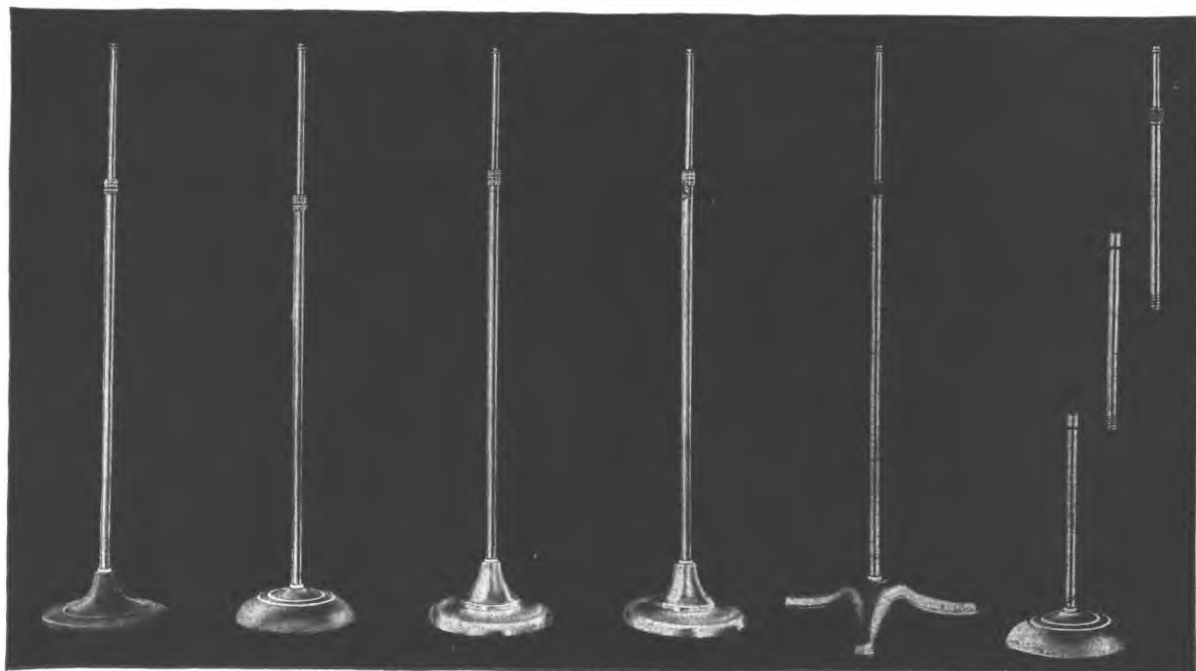
Model MC . . . Metal-cloth screen with gaskets for AM-10, SB-12, or P-16 List Price \$.75

Model AF . . . Pre-formed acoustic felt lining for housings of AM-10, SB-12, or P-16 List Price \$.75



ATLAS SOUND CORPORATION

"VELVET ACTION*" MICROPHONE STANDS
***No Slipping . . . No Scratching . . . No Rattle . . . No Noise . . .**



MS-8

MS-9

MS-11

MS-18

MS-10

MS-31

"Velvet Action" Clutch Mechanism . . . the exclusive feature of these superbly created and accurately constructed microphone floor stands. Single-hand control is possible after the clutch has been adjusted to the weight of the microphone. "Velvet Action" Protection Feature . . . offers positive assurance against sudden dropping of the telescoping tube. The new improved pump-action seal also eliminates highly objectionable rattle between tubes.

Heavy-Wall Brass Tubing . . . Triple Chrome Finish . . . The telescoping sections are of heavy wall brass tubing—eliminating rust and corrosion, and assuring "life-time" wear on threaded parts. All models have a 3/8" diameter outer tube, and a 5/8" inner tube. The stands are expertly finished in the patented triple-plate "Super-Chrome" which insures an everlasting, lustrous surface. Microphone thread size is standard 5 3/8"—27 male. All bases are furnished with rubber pads.

Model	Base Finish	Tube Finish	Base Diameter	Height Adjustment	Weight	List Price
MS-8	Black Crackle	"Super-Chrome"	10"	36" to 67"	8 lbs.	\$6.00
MS-9	Gray Crackle, Red Circles	" "	10"	37" to 68"	9 lbs.	7.50
MS-11	"Super-Chrome"	" "	10 1/4"	38" to 69"	11 lbs.	8.50
MS-18	"Super-Chrome"	" "	10 1/4"	38" to 69"	18 lbs.	11.00
MS-10	Gun-Metal Crackle	" "	16 1/2"	38" to 69"	10 lbs.	8.00
MS-31	Gray Crackle, Red Circles	" "	10"	19" to 67"	9 lbs.	9.00

ATLAS DESK and BANQUET STANDS

★Five Models For Every P. A. Application

★Adjustable Stands Incorporate "Velvet Action"



Model DS-3
Adjustable
Desk Stand

Atlas Desk Stands . . . The tubes on all desk stands are finished in the patented triple-plate "Super-Chrome". Bases are available in chromium or black crackle finish, on both the adjustable and fixed type stands. The adjustable Models DS-3 and DS-4 use the exclusive "Velvet Action" friction clutch. All desk stands have a 6" diameter base mounted on anti-shock, scratch-proof felt bumpers. Standard 5/8"—27 male microphone thread on all models.



Model TS-5

Banquet Stand Model TS-5 . . . The banquet stand uses the same large 3/4" brass tubing and "Velvet Action" clutch as used on the Atlas Floor Stands. The 8" diameter base is finished with gun metal crackle and contrasting red circles, and equipped with shock-proof, scratch-proof rubber bumpers.

MODEL	TYPE	HEIGHT	BASE FINISH	LIST PRICE
DS-1	Fixed	8"	Black Crackle	1.75
DS-2	Fixed	8"	"Super-Chrome"	2.75
DS-3	Adjustable	10" to 15"	"Super-Chrome"	3.75
DS-4	Adjustable	10" to 15"	Black Crackle	2.75
TS-5	Adjustable	18" to 32"	Gun-Metal Crackle	5.50

"DE-LUXE" Studio Stand

Distinctive Stand . . . For a Modern Setting . . . Atlas meets the demand for a high quality stand for all microphone applications. Oversize construction and improved clutch of the MS-24 makes the stand easily adjustable and absolutely free from jamming. The clutch mechanism is wear-proof because of its inner bake-life construction. The clutch is 4" in length offering a full, firm grip for the entire hand.

Semi-Tripod Base . . . 17" Spread . . . The base (total weight 24 lbs.) has a modernistic tripod design, permitting the user to stand close to the microphone. Rubber cushions are fastened to the base legs to absorb shock. The base is finished in a combination chromium and opalescent gun-metal crackle. The tubing, base legs, and shell are finished in triple-plate "Super-Chrome".

Expert Construction . . . Diameter of the outer tube is 1 1/8", and the inner telescoping tube 3/8". These tubes permit height adjustment from 42" to 72". Two adaptors are supplied for microphones having either 5/8"—27 or 1/2" threads.

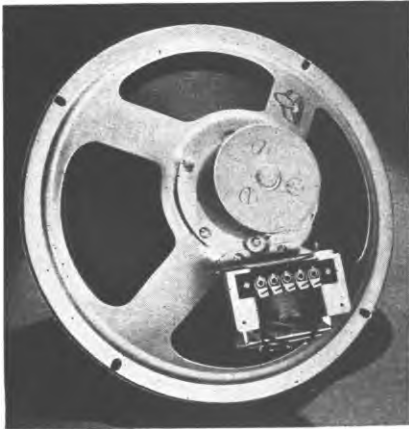
MS-24 Stand . . . \$16.50 List



ATLAS SOUND CORPORATION



"HI-FI" P. A. Speakers PERMANENT MAGNET TYPE



Model PM-12 Speaker

Atlas "Hi-Fi" Permanent Magnet Speakers . . . especially designed for high quality public address application. The speakers reproduce efficiently at the lower audio frequencies . . . and a substantially high output is developed at the higher frequencies, a factor so necessary for sharp and well-defined speech reproduction. The Duro-Last Cones are treated to be as moisture-resistant as possible without affecting the frequency response.

Exclusive spider suspension design . . . An outstanding constructional feature of the Atlas P. M. Speakers is the spider suspension. The laminated bakelite spider assembly is built to extremely close tolerances, resulting in a maximum of speaker efficiency. The open spider arrangement is such that the cone suspension can "breathe" and the cone mo-

tion is not damped or impeded by pocketed air compression in the magnetic gap area.

ALNICO magnet assembly . . . The voice coil gap is adequately protected against magnetic particles or foreign materials from lodging therein. All speaker models use the finest grade of magnetic steel (ALNICO).

Universal Line Matching Transformers . . . By the use of the proper terminals and series parallel connections, a suitable electrical match can be obtained using any quantity or arrangement of speakers. The transformers have primary impedances of 500, 1000, 1500, and 2000 ohms.

All transformers oversize in construction . . . The transformer used with the Model PM-12 has a core size of $7\frac{3}{8}'' \times \frac{7}{8}''$; the Model PM-8 has a core size of $5\frac{3}{8}'' \times \frac{3}{8}''$.

Model PM-8



Model	Size	Voice Coil	Transformer	Normal Wattage	Peak Wattage	Shipping Weight	List Price
PM-12LT	12"	6-8 Ohms	None	12 Watts	16 Watts	7½ lbs.	\$9.50
PM-12	12"	6-8 Ohms	Univ. Line	12 Watts	16 Watts	8 lbs.	11.50
PM-8LT	8"	6 Ohms	None	8 Watts	10 Watts	3 lbs.	4.75
PM-8	8"	6 Ohms	Univ. Line	8 Watts	10 Watts	3½ lbs.	6.00
PM-4LT	5"	3.5 Ohms	None	3 Watts	5 Watts	1½ lbs.	3.25



TWIN SPEAKER CARRYING CASE

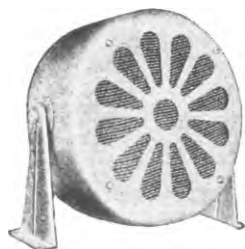
For 12" Speakers

Expert Construction . . . The attractive fine black leatherette is firmly applied to the heavy plywood case so that it will adhere permanently. The case is fitted with eight nickel-plated corner pieces, and gliders (top and bottom) to protect the case from damage or scarring from contact with the floor. A full-size luggage handle is securely

fastened for convenience in handling.

Complete Speaker Protection . . . The cone speakers are protected with heavy-mesh metal grilles covered with genuine silver and black Acousti-Cloth. Four snap-on locks are provided for securing the two sections of the case when not in use. Special decorative-head speaker mounting bolts are supplied. Dimensions: The case is 25" High, 17" Wide, and 10" Deep. Shipping Weight 12 lbs.

Model SC-12 Carrying Case . . . List Price \$12.00



TWO-WAY ENCLOSURE

For 8" Speakers

*Excellent for Long Corridors

*Ideal for Offices, Factories, Hospitals, Schools, General P. A.

Two-Directional Speaker Enclosure . . . The outstanding advantage of the TW-8 is the two-directional projection feature. The front and back wave of the speaker diaphragm is utilized to assist in good sound coverage in long corridors and central locations.

Pressed Steel Construction . . . The case is of pressed steel attractively finished in Atlas gray enamel. The adjustable mounting bracket permits either wall or ceiling mounting. Metal-cloth protective screens for both sides of the enclosure, and decorative speaker mounting bolts supplied. Case Diameter 10", Depth 5", Shipping Weight 4 lbs.

Model PM-8 Permanent Magnet Speaker recommended for use with this enclosure.

Model TW-8 Enclosure . . . List Price \$6.00

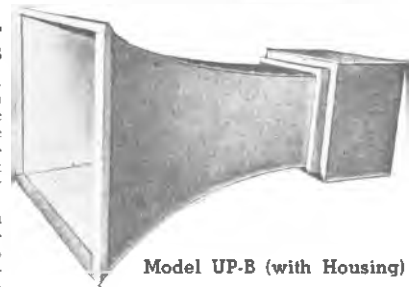
'GIANT' PROJECTOR For 12" to 15" Speakers

High-Powered Cone Projector . . . This giant flared exponential horn can be used effectively in any large high quality installation using large power-cones. The large size air column offers sufficient loading to permit the speaker to reproduce extremely low frequencies.

Sturdy Construction . . . The horn is constructed of MASONITE Presdwood, which is guaranteed 100% weatherproof. Shipped "knocked-down", the horn can be easily assembled without special tools. A pair of pliers is sufficient to assemble the entire horn. No drilling, painting, or glueing is necessary. The UP is completely painted in a durable weatherproof aluminum lacquer. Bell Opening 24" x 36". Total length of horn as shown is 4 ft. Shipping size demounted 37" x 25" x 3¼". Shipping Weight 22 lbs. Housing Dimensions: 15¾" x 15¾" x 11" deep. Shipping Weight 8 lbs.

Model UP Projector (less Housing) . . . List Price \$14.50

Model UP-B Projector (with Housing) . . . List Price \$18.50



Model UP-B (with Housing)

"DEMOUNTABLE" BAFFLES

Weatherproof MASONITE Baffles . . . These demountable baffles are constructed of weatherproof MASONITE Presdwood. The baffles are all shipped "knocked-down" in compact cartons and are easy to assemble. A pair of pliers and screwdriver are the only tools necessary to assemble the baffles. They are finished in a protective aluminum lacquer which will resist moisture and weather. All mounting hardware supplied.

Model UP-A . . . Short Flare Model . . . Overall dimensions: Bell Opening 30" x 18", Depth 14". For 12" speakers. Shipping Weight 10 lbs. . . Model UP-A—List Price \$7.00

Model UD-A Long Flare Directional Baffle . . . Overall Dimensions: Bell Opening 22" x 23", Depth 25". For 12" speakers. Shpgg. wt. 13 lbs. Model UD-A—List \$8.50

Model UB "Demountable Speaker Housing" . . . This speaker housing can be easily attached to either the UP-A or the UD-A baffles. Inside dimensions: 15¾" x 15¾" x 11" deep. Shipping Weight 8 lbs. . . . Model UB—List Price \$4.00



"Communicator Box" With 5" Speaker

Walnut Cabinet and P. M. Speaker For Inter-Communication Systems . . . The ideal speaker for desk or wall application in call or paging systems. Rear of cabinet has the same design and finish as the front, covered with Acousti-Cloth grille. Rubber bumpers mounted on bottom to prevent scratching of smooth surfaces. Terminal strip supplied to permit speedy connection of speaker leads.

Permanent Magnet Type 5" Cone Speaker . . . The 5" P. M. speaker is conservatively rated at 3 watts. Voice coil impedance 3.5 ohms. Cabinet Dimensions: 6¾" High, 6¼" Wide, 3¼" Deep. Shipping Weight (with speaker) 3½ lbs.

Model AE-5SP (Cabinet with 5" Speaker) . . . List Price \$6.75

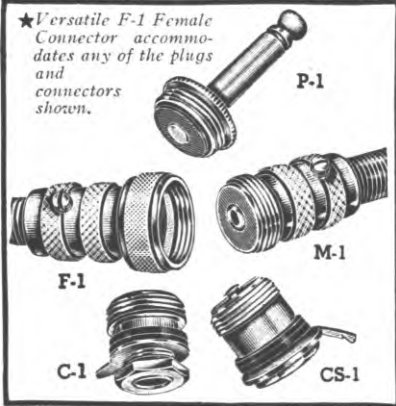
Model AE-5 (Cabinet Only) . . . List Price \$3.50





ATLAS SOUND CORPORATION

Atlas Sound "Hold-Tite" Shielded Connectors
 ★For Better Connections ★Speedy.. positive contact.. perfect shielding

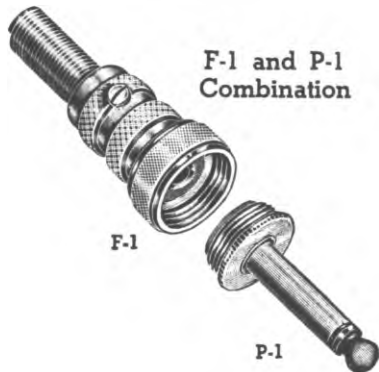


★Versatile F-1 Female Connector accommodates any of the plugs and connectors shown.

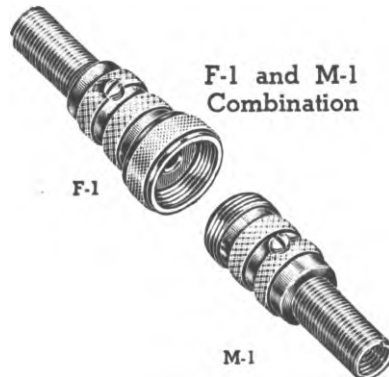
Atlas Sound "Hold-Tite" Connectors . . . offer a simple and dependable means of connecting single-conductor shielded cable sizes up to 5/16" o. d. Shield contact is accomplished by the use of an ingenious internal clamp which is held firmly to the woven shield by the set screw, a soldered connection . . . or a combination of both.

Solid brass parts . . . Accurately machined . . . and finished in non-tarnishing "Super-Chrome." All male and female threads are 5/8"-27 which is standard for all microphones and most makes of amplifier and chassis connectors.

Protective Spring Extension . . . protects the cable against sharp bends and possible breakage. No difficult soldering of the steel spring to the shield is required for electrical contact.



F-1 and P-1 Combination



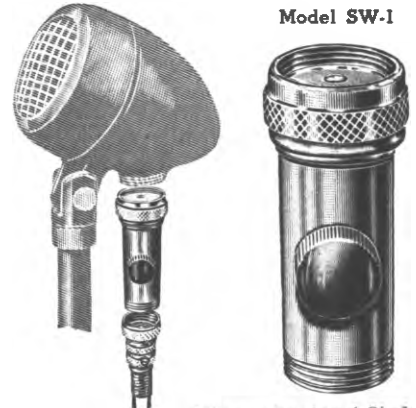
F-1 and M-1 Combination

"BREAK-IN" SWITCH

★COMBINATION:

"On and Off" or "Press to Talk"

Model SW-1



[Illustration Actual Size]

Modernize your microphone . . . with this new combination switch. For all microphones or circuits having single conductor shielded cable. Combination switch is completely wired and can be speedily attached to microphone . . . chassis connector . . . or anywhere in the microphone cable line by using Atlas F-1 and M-1 Connector.

Operation . . . PRESS the button . . . for "Press to Talk." . . . TURN the knob for "On and Off" switching.

Solid brass construction . . . "Super Chrome" plating . . . Inner noiseless contacts made for "lifetime" use. All threads 5/8"-27, allowing use with Atlas "Hold-Tite" Connectors and others.

Model SW-1 Switch.....List Price \$1.75

Model P-1 Phone Plug . . . when used with the F-1 offers a reliable, damage-proof "armored" combination connector. The P-1 has standard telephone plug dimensions and can be used with all amplifiers or devices having jack type inputs. Thread Size: Male 5/8"-27, permitting use with F-1 or any female connector. . . . \$.45 List

Model F-1 Female Connector . . . cord or chassis connector built to withstand hard service. Self-wiping soldered connection guarantees against intermittent or high-resistant contact. Spring extension guards against sharp cable bends and breakage. Thread Size: Female 5/8"-27, permitting use with Atlas and other standard connectors. . . . \$.50 List

Model M-1 Male Connector . . . used in connection with F-1 Female. The combination makes a permanent, reliable means of connecting two shielded cables together. Thread Size: Male 5/8"-27, permitting use with Atlas F-1 and all types of female connectors. . . . \$.40 List

CHASSIS OR PANEL TYPE CABLE CONNECTORS

★Open Circuit Model C-1

A Practical Means of Terminating Input Circuits of an Amplifier . . . Mounting hole size 3/8". This connector can be grounded to the chassis or insulated with fibre shoulder washers supplied. A large size soldering lug and nut supplied for permanent ground connection. Thread Size: Male 5/8"-27, permitting use with Atlas F-1 and other female connectors.

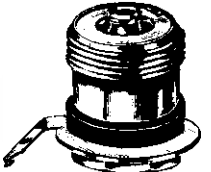
Model C-1 Chassis Connector.....\$.30 List



★Closed Circuit Model CS-1

Spring contact short-circuits connector when the input device is removed . . . thereby eliminating the possibility of open circuit hum or open grid howl. Automatic shorting contact is opened when female connector is screwed in place. Insulating washers, lug, and nut supplied. Mounting hole 3/8". Thread Size: Male 5/8"-27, permitting use with F-1 and other female connectors.

Model CS-1 Chassis Connector.....\$.40 List



CH-1 Hanger

CH-1 Mike Cable Hanger

Applicable to any make of microphone floor stand . . . Offers a method of hanging the mike cable on the stand when not in use.

Model CH-1 Hanger.....List \$1.00

Microphone Adaptors

SVL Universal Ball Swivel . . . A ball-socket swivel adaptor with a 5/8"-27 thread.

Model SVL Adaptor.....List \$1.00
 5/8"-27 to 1/2" Microphone Adaptor . . . This adaptor has a 5/8"-27 female and 1/2" male pipe thread.

Model AD-1.....List \$.75

W. E. Microphone Adaptor . . .

Model WE-1.....List \$1.50

Single Conductor Shielded Cable



★Low Capacity . . . Low Loss . . . Heavy Duty
 ★Extra Flexibility . . . Kink-Proof

Tightly Woven Shield . . . The shield is tightly woven, offering effective shielding. Strain fillers eliminate static accumulation and act as lubricating sleeves for the woven shield when the cable is twisted or bent at close angles.

Specifications . . . Single conductor No. 20 AWG, 26 strands of No. 34 tinned copper, cotton wrap, low loss

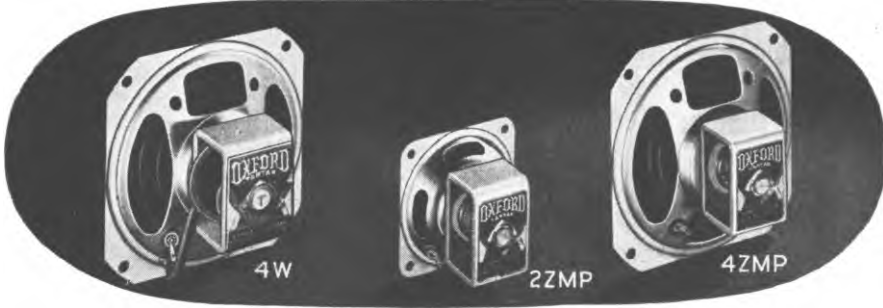
rubber insulation to .175 diameter, 90% coverage No. 36 braided tinned copper shield, cotton wrap, black rubber jacket overall, satin finish. Overall outside diameter 9.32". Supplied in 100-foot spool or over.

Model KC Cable

\$7.50 List, per hundred feet

OXFORD

TARTAK



"JUNIOR SERIES"

**Electro-Dynamic
and
Permag**

SPEAKERS

IT IS MORE ECONOMICAL TO REPLACE A DEFECTIVE SPEAKER THAN TO REPAIR IT!

OXFORD "Junior Series" comprises the most widely used types of speakers up to 8". All have standard mountings for easy installation. Model 2ZMP may be used as MICROPHONE with transformer # 1290.

2" PERMAG

Model	Over-all Diameter	Cone Size	V.C. Imp. Ohms	Power Cap. Watts	Ship. Oz.	List Less Trans	Net
2ZMP	2 1/2"	2 1/4"	3-4	1	7	\$1.75	\$1.05

3" and 4" ELECTRO-DYNAMIC

Model	Size	Field Res. Ohms	V.C. Imp. Ohms	Ship. Wt. Oz.	List Less Trans.	Net
3W1	3"	450	4.5	10	\$1.75	\$1.05
3W2	3"	2750	4.5	10	1.75	1.05
4W1	4"	450	4.5	10	1.85	1.11
4W2	4"	2750	4.5	10	1.85	1.11

6"—8" ELECTRO-DYNAMIC

Model 6J and 8J supplied with universal transformers. 6J has elongated holes in mounting flange to fit 6" or 6 1/2" speaker opening. Sturdily constructed these speakers may be used for small PA installations where a Permag is not desired, or for replacement speakers in small console sets.

Model	Size	Field Ohms	V. C. Ohms	List	Net
J-61	6 1/2"	2750	5	\$3.40	\$2.04
J-62	6 1/2"	1800T300	5	3.40	2.04
J-63	6 1/2"	1000	5	3.40	2.04
J-64	6 1/2"	6 volt	5	3.40	2.04
J-81	8"	2500	5	4.40	2.64
J-82	8"	1800T300	5	4.40	2.64
J-83	8"	1000	5	4.40	2.64
J-84	8"	6 volt	5	4.40	2.64

Speakers may be purchased less transformer—deduct 85c list on 6J series, \$1.00 on 8J series. Special fields 75c additional list.

3" 4" 5" PERMAG

Model	Size	V.C. Imp. Ohms	Power Cap. Watts	Ship. Wt. Oz.	List Less Trans.	Net
3ZMP	3 1/2"	3.4	1 1/2	8	\$1.85	\$1.11
4ZMP	4 1/8"	3.4	2	10	1.95	1.17
5ZMP	5"	3.4	2 1/2	12	2.00	1.20

5" ELECTRO-DYNAMIC

Specifications on speakers listed below:—V. C. imp. 5 ohms. Outside diameter 5" Power cap. 2 1/2 watts. Shipping wt. with transformer 1 1/2 lbs., less transformer 1 1/4 lbs. Speaker furnished with removable mounting bracket. 450 ohm speakers furnished with bucking coil.

Model	Field Res. Ohms	Trans.	List	Net
V-51	2750	S-43	\$2.60	\$1.56
V-52	1800T300	S-42	2.60	1.56
V-53	1000	S-42	2.60	1.56
V-54	450	S-25L6	2.60	1.56
V-55	6 volt	S-41	2.60	1.56
V-51-L	2750	Less Trans.	2.00	1.20
V-52-L	1800T300	Less Trans.	2.00	1.20
V-53-L	1000	Less Trans.	2.00	1.20
V54-L	450	Less Trans.	2.00	1.20
V-55-L	6 volt	Less Trans.	2.00	1.20

TRANSFORMERS

The transformers listed below have been especially designed for use with Oxford speakers. They are highly efficient and provide the correct matching for maximum output efficiency. Model 1290 voice coil to grid transformer is enclosed in a metal shell.

Trans. No.	Type	Output Tube	Core Size	For Speakers	Load Imp. Ohms	List Price	Net Price
21H25	Single	25L6	1/2" x 1 1/2"	{ 2"—3"—4"—5" }	2000	\$0.65	\$0.39
21F55	Single	25A7	1/2" x 1 1/2"	{ PM. and Electros }	4500	.65	.39
21J75	Single	42	1/2" x 1 1/2"	" " "	7000	.65	.39
1290	V.C. to grid	*	1/2" x 1 1/2"	" " "	Universal	1.00	.60
U21	Universal	*	1/2" x 1 1/2"	" " "	500	1.00	.60
L21	500 ohm	Line	1/2" x 1 1/2"	" " "	500	.65	.39
UL21	Universal	Line	1/2" x 1 1/2"	" " "	500-1000-1500-2000	1.00	.60
U85	Universal	*	5/8" x 5/8"	(6"—8")	Universal	1.25	.75
L85	500 ohm	Line	5/8" x 5/8"	(6"—8")	500	1.00	.60
UL85	Universal	Line	5/8" x 5/8"	(6"—8")	500-1000-1500-2000	1.25	.75
U43	Universal	*	3/4" x 3/4"	(8"—14")	Universal	1.50	.90
L43	500 ohm	Line	3/4" x 3/4"	(8"—14")	500	1.25	.75
UL43	Universal	Line	3/4" x 3/4"	(8"—14")	500-1000-1500-2000	1.50	.90
U87	Universal	*	7/8" x 7/8"	(12"—14")	Universal	2.00	1.20
L87	500 ohm	Line	7/8" x 7/8"	(12"—14")	500	1.75	1.05
UL87	Universal	Line	7/8" x 7/8"	(12"—14")	500-1000-1500-2000	2.25	1.35

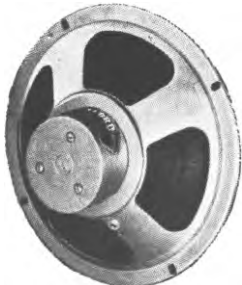
*Universal output transformers for most tubes—single, PP parallel or Class B.

OXFORD

TARTAK



PUBLIC ADDRESS SPEAKERS ELECTRO-DYNAMIC AND PERMAG



8 EMP

For the exacting requirements of public address installations, OXFORD offers several **PermAG** and Electro-dynamic models ranging in size from 3" to 14". Among these models are those suitable for use with electro-musical instruments, as electrical guitars, or for orchestral work. Other models may be used with coin-operated phonographs, or in inter-office communicating systems or extension speakers. Wherever a high quality efficient speaker is desired, an Oxford **PermAG** speaker can be relied upon to do the work successfully.

Models 12DM2 and 14DM2 are two new DeLuxe **PermAG** heavy-duty public address speakers of superior tone quality and power-handling capacity. They are recommended for the finest installations.

The Electro-Dynamic speakers are furnished with listed fields as standard. Special fields are available at \$1.00 additional list price (60c net). AC models are supplied for use on 110 volts, 60 cycles. Special AC transformers for other voltages and frequencies are available at additional cost. (Prices given on request.)



12 DM2

PERMAG

Model	Diameter	Voice Coil Size — Imp.	Power Cap. Watts	Ship. Wt. Lbs.	List Price Less Trans.	Net Price Less Trans.
30MP	3 1/2"	5/8" 5	2	1 1/4	\$ 2.60	\$ 1.56
50MP	5"	5/8" 5	2 1/2	1 1/2	2.60	1.56
60MP	6 1/2"	5/8" 5	3 1/2	1 3/4	3.00	1.80
6EMP	6 1/2"	3/4" 6-8	4	2 1/2	3.90	2.34
8EMP	8"	3/4" 6-8	5	3 1/4	4.50	2.70
8SMP	8"	1" 6-8	7	4 1/2	7.50	4.50
10AMP	10"	1" 6-8	7	5	7.50	4.50
10SMP	10"	1" 6-8	8	5 1/2	8.50	5.10
11SMP	11"	1" 6-8	8	5 3/4	8.50	5.10
12AMP	12"	1" 6-8	8	5 1/2	8.50	5.10
12SMP	12"	1" 6-8	9	7 1/2	9.50	5.70
12DM2	12"	1 1/4" 8	20	11	15.00	9.00
14DM2	14"	1 1/4" 8	20	12	18.00	10.80

Speakers above furnished less transformer; if transformer is desired, specify by indicating transformer number after speaker model number. (See chart on reverse side for proper transformer.)

ELECTRO-DYNAMIC

Model	Diameter	Field Res. Ohms	Voice Coil Size — Imp.	Power Cap. Watts	Trans.	Ship. Wt. Lbs.	List	Net
8F1	8"	2500	3/4" 4	6	Univ.	5	\$ 5.00	\$ 3.00
8F2	8"	1800T300	3/4" 4	6	Univ.	5	5.00	3.00
8F3	8"	1000	3/4" 4	6	Univ.	5	5.00	3.00
10U1	10"	2500	1" 6-8	8	Univ.	7	7.25	4.35
10U2	10"	1800T300	1" 6-8	8	Univ.	7	7.25	4.35
10U3	10"	1000	1" 6-8	8	Univ.	7	7.25	4.35
12U1	12"	2500	1" 6-8	10	Univ.	8	8.25	4.95
12U2	12"	1800T300	1" 6-8	10	Univ.	8	8.25	4.95
12U3	12"	1000	1" 6-8	10	Univ.	8	8.25	4.95
12D1	12"	1000	1 1/4" 8	15	None	13	10.50	6.30
12D2	12"	2500	1 1/4" 8	15	None	13	10.50	6.30
12DS1	12"	1000	1 1/4" 8	15	None	15	13.50	8.10
12DS2	12"	2500	1 1/4" 8	15	None	15	13.50	8.10
12DSAC	12"	AC	1 1/4" 8	15	None	18	21.50	12.90
14D1	14"	1000	1 1/4" 8	18	None	14	12.00	7.20
14D2	14"	2500	1 1/4" 8	18	None	14	12.00	7.20
14DS1	14"	1000	1 1/4" 8	18	None	16	15.00	9.00
14DS2	14"	2500	1 1/4" 8	18	None	16	15.00	9.00
14DSAC	14"	AC	1 1/4" 8	18	None	19	23.00	13.80

12DS and 14DS models furnished with support stand. On "D" and "DS" series if transformer is desired, specify transformer number after speaker model number. (See transformer chart on reverse side.)

MAGNETIC SPEAKERS

OXFORD magnetic speakers are supplied in four popular sizes 3"—5"—6"—8". All are ruggedly constructed and use highly efficient magnets.

Model	Size	Ship. Wt.	List	Net
M30	3 1/2"	3/4 lb.	\$1.75	\$1.05
M50	5"	3/4 lb.	1.85	1.11
M60	6 1/2"	1 lb.	2.25	1.35
M80	8"	1 1/2 lb.	2.90	1.74

See
and Hear

KAINER SOUND PROJECTORS



All Steel Exponential Sound Projector for 12" Speakers—Model J-12

Model J-8 KAINER all steel sound projector, constructed similar to the J-12 Model, is designed to accommodate all types of 8" speakers.

SPECIFICATIONS

Model J-8 is constructed of heavy spun steel alloy, light in weight, yet very strong. Baffle is spun in only two pieces, with an exclusive KAINER wedge fit feature, overcoming vibrations along the edges when under extreme load. Measurements: Overall Length 17"; Circular Mouth Diameter 14"; Flare Extension 9". Perforated breather opening. Both baffle and bracket finished in attractive baked art metal enamel.

The fixture to which the lower bracket extension can be attached is of malleable iron, and welded to the baffle. The fixture is tapped so that any distance off of the floor, wall, or ceiling may be easily obtained by simply using 1/2" pipe, nipples, couplings, etc., readily obtainable. Bracket attachment furnished separately consists of flange base with length of pipe and elbow for either wall or upright mounting.

J-8 Baffle \$12.25
J-8 Mounting Fixture Only 1.00



All Steel Exponential Sound Projector for 6" Speakers—Model J-6

Model J-12 Kainer all steel sound projector is the result of many laboratory and field tests. It is designed to accommodate all types of 12" speakers with or without matching transformers, including those with extra heavy permanent magnets. It will withstand the abuse of heavy vibration under load, as well as rough handling in shipping. You may drop it or stand on it without danger of it being easily damaged.

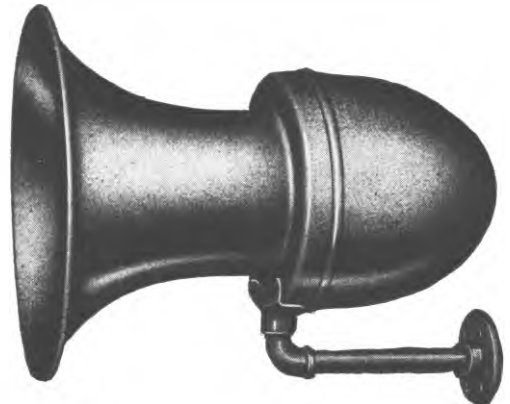
SPECIFICATIONS

Model J-12 is constructed of heavy spun steel alloy, light in weight, yet very strong. The baffle is spun in only two pieces with an exclusive KAINER wedge fit feature to prevent vibration along the edges when under extreme load. Measurements are: Overall length 20"; Circular Mouth Opening 17"; Flare Extension 11". Screened breather opening. Finished in attractive baked art metal enamel.

The fixture to which the lower bracket or extension can be attached is of malleable iron, and is welded to the baffle. No rivets to pull out. The fixture extends up the sides to include two of the speaker bolts, thus the speaker is actually bolted to the bracket and baffle, and only a minimum of vibration is possible in the entire instrument. This fixture is tapped so that any distance from the floor, wall, or ceiling may be easily obtained by simply using 1/2" pipe, nipples, couplings, etc., readily obtainable.

The malleable iron base and bracket carries a tilting dog-toothed adjustment together with a swivel and lock nut.

J-12 Baffle only \$12.25
J-12B Bracket 2.50



All Steel Exponential Sound Projector for 8" Speakers—Model J-8

Model J-6 KAINER all-steel sound projector is used extensively for parking lots, garages, small playgrounds, hallways, stock rooms, hotels, hospitals, warehouses and all places where call systems are in use. This is a perfect accessory to installations where multiple 6" speakers are in use under conditions where they must withstand both weather and heavy service. Tests have proven definitely that the Model J-6 baffle results in a more clear and perfectly projected speech than when unprotected speakers or flat type speaker housings are used. Wherever dampness is prevalent this all-steel baffle can be depended upon as being a permanent and satisfactory instrument.

SPECIFICATIONS

Model J-6 for 6" speakers is constructed of heavy spun steel alloy. It measures 9 1/2" in length. Circular 10" mouth. 5" extension of flare. Has perforated breather opening. The shell is large enough to accommodate any 6" PM speaker with matching transformer. All parts are finished in durable baked art metal enamel.

A fixture of malleable iron is welded to the baffle and is tapped so that any distance off of the wall or ceiling may easily be obtained by simply attaching desired length of 1/2" pipe, nipples, couplings, etc., thus insuring a permanent and rigid installation.

J-6 Baffle \$7.50
J-6B Mounting Fixture Only 1.00

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

See
and Hear



KAINER SOUND PROJECTORS

CHANDELIER BAFFLE

A late Kainer development in speaker baffles for uniform coverage. Eliminates areas of concentrated sound, tends to reduce feed back. This one baffle replaces multiple speaker installations when desirable and numerous wall baffles. Ideal for restaurants, clubs, cabarets and dance halls where the necessity of projecting sound close to the performers is important—recommended only for ceiling heights above 12 feet. Suspended from ceiling with link chain or sash cord—easy to install. Accommodates any heavy duty 12" P.M. Speaker.

CONSTRUCTION: Spun steel alloy finished in attractive grey baked enamel. SIZE: Diameter, 32"; height 17".

PRICE: Complete without speaker, List \$30.00



AIR COLUMN HORN Model A-C-8

Specially effective for all outdoor work: Baseball Parks, Circuses, Athletic Fields, and all installations where power and direction of sound are particularly required. The A-C-8 Air Column Horn is well suited for applications where sound must be projected great distances and with the minimum of feedback. When using a microphone under conditions where ordinary baffles would be unsatisfactory, this horn with its uni-directional qualities will allow in most cases double or more power to be used before the feedback point is reached. The back of this horn is completely closed, eliminating to the best possible extent, interference to person or persons using a microphone, and allowing the best possible placement of speakers either directly above and slightly forward of the microphone, or to the left or right of the microphone and slightly forward. Both of these positions eliminate bothersome "double talk" and "lag" which is objectionable to audiences. This method of placement gives the best illusion that the sound is coming directly from the person using the microphone. The bracket attachment is welded to the horn, properly balanced, and mounting fixtures with base can be furnished as a complete unit, permitting exceptionally convenient means for installation. THE KAINER AIR COLUMN HORN is constructed of heavy spun steel alloy, light in weight, yet very strong. All parts finished with durable baked art metal enamel. Designed for 8" HEAVY DUTY Speaker—Bell Opening 24"—Overall Length 36".



Horn Complete with Mounting Fixture, but without Base and Adjustable Attachment List \$34.80
Base and Fixture List \$3.00

KAINER WEATHERPROOF HORNS Model WH-5

FOR 5" SPEAKERS—COMPACT AND EFFICIENT

The inverted reflex design is similar to that used in the WH-6 and WH-8 models, which adds materially to the performance of any good cone speaker. For all purpose use, including use as a microphone in Talk-Back installations—wide frequency range, good for both music and voice. The very substantially constructed bell and reflex cone are of spun steel alloy, finished with gray baked art metal enamel. The bell and cone are mounted on an aluminum alloy casting to which the base fixture is also attached. This insures a rigid assembly and makes it convenient to install 5" cone speaker direct to the aluminum casting.

SPECIFICATIONS

Over All Length—8". Bell Opening—11". Ship. Wt. 5½ lbs.
Horn complete with base List \$10.



Model W-H-8

Constructed for all unsheltered outdoor and indoor use: Factories, Airports, Sound Trucks, Police and Fire Cars, Stadiums, etc., etc. Exceptionally sturdy construction—Possible physical damage to the cone speaker is overcome due to its inverted position. The speaker faces the inside of the horn. This construction will withstand exposure to rain, snow and wind. The bell and housing are spun of heavy gauge steel alloy, light in weight, yet very strong; and all parts are heavily finished with a durable baked art metal enamel. Bracket attachment is welded to the horn, properly balanced, and mounting fixture with base can be furnished as a complete unit, permitting exceptionally convenient means for installation on Sound Trucks, Wall, or Portable Use. Designed for 8" HEAVY DUTY Speaker. Bell Opening 22¾". Overall Length 17¾"—Height from Base 27".

Horn Complete Without Base and Fixture.

List \$25.85

Base and Fixture List \$2.50



Model WH-8

Construction similar to Model WH-8 except size is for 6" speaker. Used for all unsheltered outdoor and indoor installations, factories, airports, sound trucks, police and fire cars, stadiums, etc., etc. The bell and speaker housing are of spun heavy gauge steel alloy, all parts finished with a durable art baked enamel. Heavy aluminum casting firmly holds speaker. Mounting is attached to casting on which the speaker is mounted. Very sturdy construction throughout. Designed for 6" Heavy Duty P.M. Speaker.

SPECIFICATIONS

Bell Opening—15". Over All Length 12".
Shipping Weight—11 lbs.

Horn complete with base and mounting fixture List \$15.00

Cinaudagraph Speakers INC.

LINEAR STANDARD SPEAKERS

Cinaudagraph linear standard speakers represent the closest approach to the ideal from the viewpoint of uniform response, low wave form distortion, high efficiency and dependability. These speakers are used extensively for high fidelity service in broadcast monitoring, custom built radio sets, high quality PA, frequency modulation receivers, motion picture sound work, and wherever exacting requirements must be met.

● **HIGH FIDELITY** — The unequalled high fidelity characteristics of the linear standard speakers are achieved through the use of special polyfibrous cones plus efficient magnetic structures.

● **LOW DISTORTION** — Both the electrical and mechanical elements of these speakers have been carefully related to effect a minimum of harmonic distortion combined with a high rate of decay, which overcomes the detrimental effects of "tails" and "hangovers".

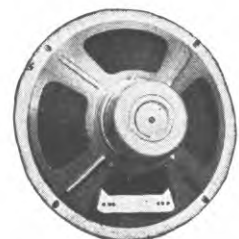
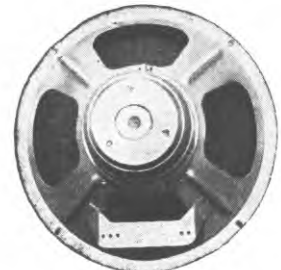
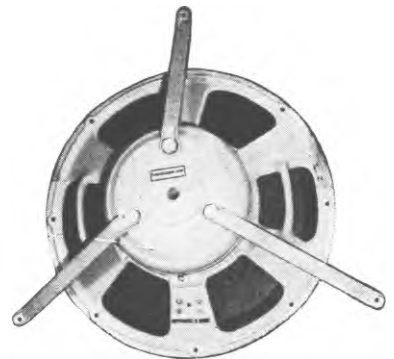
● **INPUT** — Due to the extreme high fidelity response on the linear standard speakers it is important that the input or the output of the amplifying system should be free from all forms of distortion. If such a combination is not available then it is recommended that the public address series of speakers be used.

The speakers listed with the exception of the 15" and 18" are provided with transformer mounting brackets so that the transformers listed on page D-45 can be easily attached. The speakers, however, are supplied without transformers attached.

LINEAR STANDARD SPEAKERS PERMANENT MAGNET

Voice Coil Impedance 6-8 Ohms

Catalog No.	Model No.	Housing Dia.	Cone Undis. Normal Watts	Peak Watts	Factor of Merit	Voice Coil Dia.	Shipping Weight Lbs.	List Price	Net Price	
LM 8-8	HEZ	8-10	8"	6	10	216	1"	5½	\$10.00	\$6.00
LM 10-10	HNZ	10-10	10¼"	8	13	216	1"	7	12.00	7.20
LM 12-13	HB	12-11	12"	10	18	334	1¼"	10	21.00	12.60
LM 12-15	HY	12-12	12"	12	20	430	1½"	12	27.50	16.50
LM 13-23	HW	13-13	13¼"	20	28	754	2½"	38	60.00	36.00
LM 15-25	HW	15-13	15"	22	30	754	2½"	45	75.00	45.00
LM 18-30	SU	18-12	18"	25	40	920	3½"	64	125.00	75.00



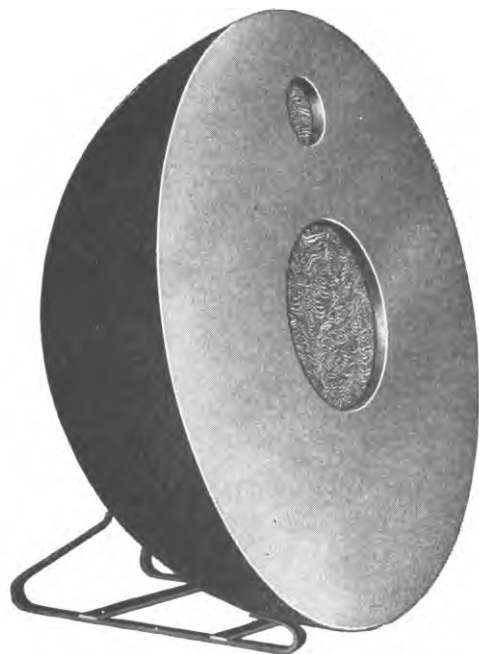
ELECTRO-DYNAMIC

Voice Coil Impedance 6-8 Ohms

Catalog No.	Model No.	Housing Dia.	Cone Undis. Normal Watts	Peak Watts	Field Ohms	Field Volts	Voice Coil Dia.	Shipping Weight Lbs.	List Price	Net Price
LE 8-8	HEZE	8"	6	10	1000	110 V DC	1"	7	\$10.00	\$6.00
LE 10-10	HNZE	10¼"	8	13	1000	110 V DC	1"	8	12.00	7.20
LE 12-14	HBE	12"	11	19	850	110 V DC	1¼"	14	15.00	9.00
LE 12-16	HYE	12"	13	21	600	110 V DC	1½"	17	20.00	12.00
LE 15-30	HWE	15"	25	35	350	110 V DC	2½"	50	50.00	30.00
LA 15-30	HWE	15"	25	35		110 V AC	2½"	60	75.00	45.00
LA 18-35	SUE	18"	30	45		110 V DC	3½"	75	100.00	60.00
LE 18-35	SUE	18"	30	45	300	110 V AC	3½"	85	125.00	75.00

Cinaudagraph Speakers, Inc.

Telesphere and Woofer-Tweeter Units



Telesphere Baffle

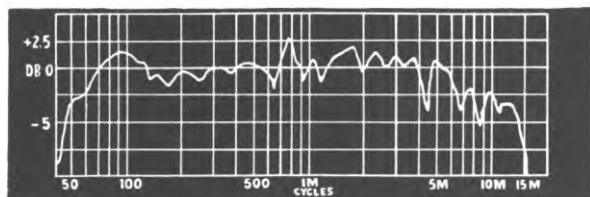
The Ideal Speaker

For Broadcast Monitor, Auditorium, FM or other High Fidelity Service

The Telesphere baffle is a revolutionary step in speaker baffling. The smooth contours of this baffle prevent internal "Cabinet corner" reflections, and uniform spacing from the cone to all parts of the baffle maintains uniform internal phase characteristics. A remarkable improvement in high frequency definition is effected.

No reflexing is used in this infinite baffle to eliminate the "boom" frequently encountered in reflexed units at the peak point.

The ultra high fidelity reproduction of the Telesphere baffle, in combination with the speakers incorporated, is such that any distortion in the amplifying system will be greatly exaggerated. The Telesphere combination is recommended for use only on amplifying systems whose input and output are free from all forms of distortion.



Type HC-15 watt high fidelity permanent magnet Woofer-Tweeter combination frequency curve, as illustrated, is substantially uniform from 50 to 15,000 cycles. This combination incorporates the new LM-5-15T tweeter and the new WM-12-15 woofer in a telesphere baffle. The CN-1500V crossover network is mounted inside the baffle. Shipping weight 110 lbs. List Price \$127.50—Net Price.....\$76.50

Woofer-Tweeter Components

CINAUDAGRAPH Permanent Magnet Woofer Speakers are specifically designed for low frequency service in woofer-tweeter combinations. In addition to excellent low frequency response, the design effects negligible cone break-up and minimum "hangover".

- WM-12-15—Specially designed low frequency woofer (may be used with LM-5-15T)—15 watts output continuously. List Price \$32.50..... Net Price \$19.50
- WM-13-23—A heavy duty 13" woofer—will handle 23 watts continuously. List Price \$60.00 Net Price \$36.00
- WM-15-25—A heavy duty 15" woofer—will handle 25 watts continuously. List Price \$75.00...Net Price \$45.00
- WM-18-30—A heavy duty 18" woofer—will handle 30 watts continuously. List Price \$100.00 Net Price \$60.00
- LM-5-15T—New high frequency permanent magnet tweeter, fully enclosed, response—5DB, 1,500 to 17,000 cycles, for 15 watt combinations. For 20 to 30 watt woofer-tweeter combinations, two of these tweeters should be used. List Price \$25.00..... Net Price \$15.00
- PM-6T—A high frequency permanent magnet speaker, reproducing frequencies above 2000 cps, can be used with standard speakers to extend the high frequency response. List Price \$11.00..... Net Price \$6.60
- CN-1500V—1,500 cycle crossover network for use with LM-15T and a low frequency woofer speaker, matches 6-8 ohm amplifier output. List Price \$12.50..... Net Price \$7.50
- CN-1500L—Same as above but for matching 500 ohms. List Price \$17.50..... Net Price \$10.50

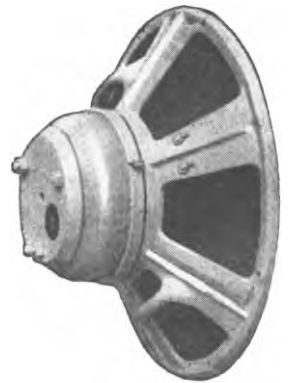
Cinaudagraph Speakers Inc.

PUBLIC ADDRESS SPEAKERS

CINAUDAGRAPH Public Address speakers are designed for indoor and outdoor PA service, high power radio and PA units, portable sound on film service, and other general applications. The design features provide full, true, low notes and excellent high frequency definition for voice reproduction

PERMANENT MAGNET Voice Coil Impedance 6-8 Ohms

Catalog No.	Model No.	Cone Housing Dia.	Undist. Normal Watts	Peak Watts	Factor of Merit	Voice Coil Dia.	Shipping Weight Lbs.	List Price	Net Price
PM 5-5	CA 5-8	5"	3	8	137	3/4"	2 1/2	\$ 4.00	\$ 2.40
PM 6-7	MA 6-8	6 1/2"	4	10	137	3/4"	2 1/2	4.25	2.55
PM 6-9	MA 6-11	6 1/2"	7	13	205	3/4"	3 1/2	8.00	4.80
PM 8-8	EA 8-9	8"	5	11	160	3/4"	4 1/2	5.25	3.15
PM 8-9	EZ 8-7	8"	6	13	173	1"	5	6.75	4.05
PM 8-11	EZ 8-10	8"	8	15	216	1"	5 1/2	8.50	5.10
PM 10-10	NZ 10-7	10 1/4"	7	14	173	1"	6	8.50	5.10
PM 10-12	NZ 10-10	10 1/4"	9	16	216	1"	7	10.00	6.00
PM 10-14	NB 10-11	10 1/4"	11	19	334	1 1/4"	9	15.50	9.30
PM 12-13	FZ 12-10	12"	10	18	216	1"	7	12.50	7.50
PM 12-16	FB 12-11	12"	13	21	334	1 1/4"	10	18.50	11.10
PM 12-18	FY 12-12	12"	15	23	430	1 1/2"	12	27.50	16.50
PM 13-25	DX 13-12	13 1/4"	21	29	556	2"	25	40.00	24.00
PM 15-18	FY 15-12	15"	15	23	430	1 1/2"	20	30.00	18.00
PM 15-28	FW 15-13	15"	25	33	754	2 1/2"	45	65.00	39.00
PM 18-33	DU 18-12	18"	28	43	920	3 1/2"	64	115.00	69.00



ELECTRO-DYNAMIC Voice Coil Impedance 6-8 Ohms

Catalog No.	Model No.	Cone Housing Dia.	Undist. Normal Watts	Peak Watts	Field Ohms	Field Volts	Voice Coil Dia.	Shipping Weight Lbs.	List Price	Net Price
PE 8-10A	EZE	8"	8	14	1000	90 V DC	1"	6	\$ 7.00	\$ 4.20
PE 8-10B	EZE	8"	8	14	2500	140 V DC	1"	6	7.00	4.20
PE 10-12A	NZE	10 1/4"	10	16	1000	100 V DC	1"	7	9.00	5.40
PE 10-12B	NZE	10 1/4"	10	16	2500	150 V DC	1"	7	9.00	5.40
PE 12-16A	FBE	12"	13	21	1000	110 V DC	1 1/4"	12	13.50	8.10
PE 12-16B	FBE	12"	13	21	2500	175 V DC	1 1/4"	12	13.50	8.10
PE 12-20A	FYE	12"	15	25	1000	110 V DC	1 1/2"	16	18.50	11.10
PE 12-20B	FYE	12"	15	25	2500	175 V DC	1 1/2"	16	18.50	11.10
PE 13-30	DWE	13 1/4"	25	35	350	110 V DC	2 1/2"	40	35.00	21.00
PE 15-35	FWE	15"	30	40	350	110 V DC	2 1/2"	50	50.00	30.00
PA 15-35	FWE	15"	30	40		110 V AC	2 1/2"	60	75.00	45.00
PE 18-40	DUE	18"	35	45	300	110 V DC	3 1/2"	75	95.00	57.00
PA 18-40	DUE	18"	35	45		110 V AC	3 1/2"	85	120.00	72.00



UNIVERSAL MATCHING TRANSFORMERS

The Universal Transformers are tapped on the primary winding to provide matching impedances to the output tube or line as indicated. The Universal Output Transformers are center tapped and provide primary impedance terminations for the popular output tubes. The Universal Line Transformers are tapped to provide matching impedances of 500, 1000, 1500

ohms. The standard transformers are for general applications, and are arranged so that they can be mounted on the speaker. The wide range transformers are for use where the highest efficiency is required. These transformers are sealed in metal cases fully protected against moisture, and due to their design can not be mounted on the speaker.

Standard Transformers

Cat. No.	UNIVERSAL OUTPUT Undistorted Peak Watts	List Price	Net Price	For Speaker	Catalog No.	UNIVERSAL LINE Undistorted Peak Watts	List Price	Net Price
ST 1	Up to 4	\$1.00	\$0.60	5", 6"	ST 6	Up to 4	\$1.00	\$0.60
ST 2	Up to 6	1.50	.90	5", 6", 8"	ST 7	Up to 6	1.50	.90
ST 3	Up to 10	2.25	1.35	8", 10", 12"	ST 8	Up to 10	2.25	1.35
ST 4	Up to 15	2.75	1.65	12", 13", 15"	ST 9	Up to 15	2.75	1.65
ST 5	Up to 25	3.50	2.10	13", 15"	ST 10	Up to 25	3.50	2.10

Wide Range Transformers

Cat. No.	UNIVERSAL OUTPUT Undistorted Peak Watts	List Price	Net Price	For Speaker	Catalog No.	UNIVERSAL LINE Undistorted Peak Watts	List Price	Net Price
WR 1	Up to 8	\$3.50	\$2.10	10", 12"	WR 5	Up to 8	\$3.50	\$2.10
WR 2	Up to 12	4.50	2.70	12", 13"	WR 6	Up to 12	4.50	2.70
WR 3	Up to 18	5.50	3.30	13", 15"	WR 7	Up to 18	5.50	3.30
WR 4	Up to 40	7.50	4.50	15", 18"	WR 8	Up to 40	7.50	4.50

Cinaudagraph Speakers Inc.

RADIO and P. A. SPEAKERS

CINAUDAGRAPH radio speakers are designed for use in radio receivers, portable PA, centralized radio, call systems, auto sets, etc. While they are inexpensive, no sacrifice of quality or efficiency has been made.

Quality magnet structures, rugged design, and moisture proof centering assures continued high efficiency and dependability. All speakers are completely dust proofed. The speakers are supplied less transformer. Facilities are provided to mount the transformers listed on this page.



PERMANENT MAGNET SPEAKERS

Catalog No.	Cone Housing Dia.	Undist. Normal Watts	Peak Watts	Factor of Merit	Voice Coil Dia.	Voice Coil Imp.	Shipping Weight Lbs.	List Price	Net Price
RM 5-3	5"	2	5	117	3/8"	4-6	2	\$2.75	\$1.65
RM 6-4	6 1/2"	2 1/2	6	117	3/8"	4-6	2 1/2	3.25	1.95
RM 8-5	8"	3	8	123	3/4"	6-8	3 1/2	4.00	2.40
RM 8-6	8"	4	9	137	3/4"	6-8	4	4.50	2.70
RM 10-6	10 1/4"	5	10	160	3/4"	6-8	5	5.80	3.48
RM 10-9	10 1/4"	6	13	173	1"	6-8	6	8.25	4.95
RM 12-11	12"	8	16	173	1"	6-8	7	8.75	5.25

ELECTRO-DYNAMIC SPEAKERS

Catalog No.	Cone Housing Dia.	Undist. Normal Watts	Peak Watts	Fields Ohms	Voice Coil Dia.	Voice Coil Imp.	Shipping Weight Lbs.	List Price	Net Price
RE 5 A	5"	2	4	1000	3/8"	4-6	2	\$2.25	\$1.35
RE 5 B	5"	2	4	2500	3/8"	4-6	2	2.25	1.35
RE 5 C	5"	2	4	1800 T 300	3/8"	4-6	2	2.25	1.35
RE 5 D	5"	2	4	450	3/8"	4-6	2	2.25	1.35
RE 5 E	5"	2	4	3000	3/8"	4-6	2	2.25	1.35
RE 5 F	5"	2	4	6 Volt	3/8"	4-6	2	2.25	1.35
RE 6 A	6 1/2"	4	8	1000	3/4"	6-8	3	3.25	1.95
RE 6 B	6 1/2"	4	8	2500	3/4"	6-8	3	3.25	1.95
RE 6 C	6 1/2"	4	8	1800 T 300	3/4"	6-8	3	3.25	1.95
RE 6 D	6 1/2"	4	8	450	3/4"	6-8	3	3.25	1.95
RE 6 E	6 1/2"	4	8	3000	3/4"	6-8	3	3.25	1.95
RE 6 F	6 1/2"	4	8	6 Volt	3/4"	6-8	3	3.25	1.95
RE 8 A	8"	6	11	1000	3/4"	6-8	4	4.50	2.70
RE 8 B	8"	6	11	2500	3/4"	6-8	4	4.50	2.70
RE 8 C	8"	6	11	1800 T 300	3/4"	6-8	4	4.50	2.70
RE 10 A	10 1/4"	7	13	1000	3/4"	6-8	6	6.50	3.90
RE 10 B	10 1/4"	7	13	2500	3/4"	6-8	6	6.50	3.90
RE 12 A	12"	8	16	1000	1"	6-8	7	7.50	4.50
RE 12 B	12"	8	16	2500	1"	6-8	7	7.50	4.50



AIR COLUMN UNITS

The speakers listed are of the Permanent Magnet type. Electro-dynamic equivalents are available on order. For prices and information write the factory.

All Air Column Speakers Supplied with 6-8 Ohm Voice Coils

Catalog No.	Model No.	Factor of Merit	Voice Coil Dia.	Normal Watts	Peak Watts	Weight Lbs.	List Price	Net Price
CM-25A	FBA	334	1 1/4"	20	30	8	\$20.00	\$12.00
CM-30	FYA	430	1 1/2"	25	35	10	31.00	18.60
CM-40	HWA	754	2 1/2"	35	45	30	56.00	33.60
CM-60	SUA	920	3 1/2"	55	65	40	91.50	54.90

Complete Assembly — Includes Speaker Exponential Horn, Handle and Supporting Bracket — (No Stand)

Catalog No.	Model No.	Undist. Peak Watts	Speaker No.	Horn No.	Handle & Bracket	Shipping Weight Lbs.	List Price	Net Price
CM-25XF	FBAX	25	CM-25 A	FX	XA	20	\$55.50	\$33.30
CM-30XF	FYAX	30	CM-30	FX	FA	22	66.50	39.90
CM-40UH	HWAU	40	CM-40	HU	HA	42	85.00	51.00
CM-40WH	HWAU	40	CM-40	SW	HA	52	113.50	68.10
CM-60US	SUAU	60	CM-60	HU	SA	63	121.75	73.05
CM-60WS	SUAU	60	CM-60	SW	SA	63	150.25	90.15

Exponential Horns and Handles with Supporting Brackets

Cat. No.	Bell Dia.	Overall Length	Cutoff	List Price	Net Price	Catalog No.	Description	List Price	Net Price
FX	24"	28"	150 cps	\$32.00	\$19.20	FA	Handle and supporting bracket for X horn	\$3.50	\$2.10
HU	24"	20"	200 cps	24.50	14.70	HA	Handle and supporting bracket for U horn	4.50	2.70
SW	32"	30"	150 cps	58.00	31.80	SA	Handle and supporting bracket for W horn	5.75	3.45

Description

Catalog No.	Description	List Price	Net Price
B-F5	Black crackle finish telescopic stand with heavy cast base	\$17.50	\$10.50
T-1	Outdoor transformer up to 40 watts, 500, 1,000, and 1,500 ohms	12.00	7.20
T-2	Outdoor transformer up to 60 watts, 500, 1,000, and 1,500 ohms	15.00	9.00

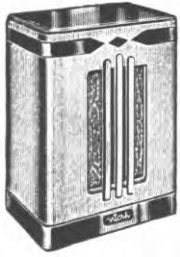
Cinaudagraph Air Column Sound Projectors are entirely different from conventional horn units. The composition of the tough, pliant, and weatherproof cone eliminates failures due to crystallization of the brittle metal diaphragms used in conventional sound projectors. The high power construction of these units is made possible through the use of rugged Permalloy magnets, ribbon voice coils, Acim voice coil support and many other design refinements developed in our Laboratory. The horns for these units are spun aluminum in two sections; easy to transport. The telescopic stand and cast steel bracket are finished in black crackle.

REPRODUCERS

THE NEW BAFLEX REPRODUCER

Utah engineering and precision manufacturing score another triumph! Straight from the Utah laboratories, the latest refinements

in sound equipment construction and design have been combined to augment the broad and diversified Utah speaker line.



In the new Utah Baflex Reproducer, Utah engineering has incorporated all the latest developments and improvements of reproducers for public address systems, schools, colleges,

greatly improved bass response. They are especially adaptable for use with television and Frequency Modulation (FM) receivers, which require a wide audio frequency range. The frequency response has a range up to approximately 9500 cycles per second.

taverns, dance halls, auditoriums, clubs, etc. They are available in four models.

The cabinets are of sturdy, extra-heavy construction, scientifically designed to eliminate cabinet vibration and resonance. The cabinet design is strikingly modern, with an attractive, durable satin bronze finish.

These new Utah Public Address Reproducers are marked by a total absence of "back radiation." There is no distortion in the

# Stock Number	Cone Housing Diameter	Magnet Weight	Voice Coil Impedance	Voice Coil Diameter	Normal Wattage	Peak Wattage	Dimensions (Inches)	Shipping Weight	List Price	Net Price
M-820	8 Inch	20 oz.	8	1 Inch	10	15	11 1/4 x 17 3/4 x 24	38 lb.	\$29.50	\$17.70
Line Transformer No. 8749 for above reproducer.....								1 lb.	1.50	.90
Universal Plate Transformer No. 8760 for above reproducer.....								1 lb.	1.50	.90
M-831	8 Inch	31 oz.	8	1 1/4 Inch	12	18	11 1/4 x 17 3/4 x 24	40 lb.	33.50	20.10
Line Transformer No. 8752 for above reproducer.....								1 1/2 lb.	1.95	1.17
Universal Plate Transformer No. 8762 for above reproducer.....								1 1/2 lb.	1.95	1.17
M-123	12 Inch	46 oz.	8	1 1/4 Inch	17	26	12 3/4 x 22 5/8 x 31	52 lb.	44.50	26.70
Line Transformer No. 8750 for above reproducer.....								1 1/2 lb.	1.95	1.17
Universal Plate Transformer No. 8761 for above reproducer.....								1 1/2 lb.	1.95	1.17
M-127	12 Inch	7 lb.	8	1 1/2 Inch	22	33	12 3/4 x 22 5/8 x 31	57 lb.	59.50	35.70
Line Transformer No. 8753 for above reproducer.....								2 1/4 lb.	2.25	1.35
Universal Plate Transformer No. 8764 for above reproducer.....								2 1/4 lb.	2.25	1.35

UTAH BAFLEX REPRODUCERS

Especially Designed for Frequency Modulation Reception

Stock Number	Cone Housing Diameter	Magnet Weight	Voice Coil Impedance	Voice Coil Diameter	Normal Wattage	Peak Wattage	Dimensions (Inches)	Shipping Weight	List Price	Net Price
FM- 820	8 Inch	20 oz.	8	1 Inch	10	15	11 1/4 x 17 3/4 x 24	38 lb.	\$31.75	\$19.05
FM-1220	12 Inch	20 oz.	8	1 Inch	13	20	12 3/4 x 22 5/8 x 31	49 lb.	41.00	24.60
Line Transformer No. 8749 for above reproducer.....								1 lb.	1.50	.90
Universal Plate Transformer No. 8760 for above reproducer.....								1 lb.	1.50	.90

HIGH FIDELITY SPEAKERS

PERMO-DYNAMIC MODELS Completely Dustproofed



E6P



F8P



F12P



H15P

Stock Number	Cone Housing Diameter	Magnet Weight	Voice Coil Impedance	Voice Coil Diameter	Normal Wattage	Peak Wattage	Shipping Weight	List Price	Net Price
E6P	6 Inch	7 Oz.	6-8	3/4 Inch	4.5	7	2 Lb.	\$ 4.25	\$ 2.55
Line Transformer No. 8746 for Above Speaker							3/4 Lb.	.85	.51
Universal Plate Transformer No. 8759 for Above Speaker							3/4 Lb.	.85	.51
F8P	8 Inch	12 Oz.	6-8	3/4 Inch	8	12	3 Lb.	6.75	3.45
Line Transformer No. 8747 for Above Speaker							3/4 Lb.	.85	.51
Univ. Plate Transformer No. 8759 for Above Speaker							3/4 Lb.	.85	.51
G8P	8 Inch	20 Oz.	6-8	1 Inch	10	15	4 1/2 Lb.	8.00	4.80
Line Transformer No. 8749 for Above Speaker							1 Lb.	1.50	.90
Universal Plate Transformer No. 8760 for Above Speaker							1 Lb.	1.50	.90
H8P	8 Inch	31 Oz.	8	1 1/4 Inch	12	18	6 1/2 Lb.	11.75	7.05
Line Transformer No. 8752 for Above Speaker							1 1/2 Lb.	1.95	1.17
Universal Plate Transformer No. 8762 for Above Speaker							1 1/2 Lb.	1.95	1.17
E10P	10 Inch	20 Oz.	6-8	1 Inch	11	17	5 1/2 Lb.	9.75	5.85
Line Transformer No. 8749 for Above Speaker							1 Lb.	1.50	.90
Universal Plate Transformer No. 8760 for Above Speaker							1 Lb.	1.50	.90
F10P	10 Inch	31 Oz.	6-8	1 1/4 Inch	14	21	7 Lb.	12.00	7.20
Line Transformer No. 8752 for Above Speaker							1 1/2 Lb.	1.95	1.17
Universal Plate Transformer No. 8762 for Above Speaker							1 1/2 Lb.	1.95	1.17
E12P	12 Inch	20 Oz.	6-8	1 Inch	13	20	6 1/2 Lb.	12.50	7.50
Line Transformer No. 8749 for Above Speaker							1 Lb.	1.50	.90
Universal Plate Transformer No. 8760 for Above Speaker							1 Lb.	1.50	.90
F12P	12 Inch	41 Oz.	8	1 1/4 Inch	16	24	8 3/4 Lb.	14.00	8.40
G12P	12 Inch	36 Oz.	8	1 1/4 Inch	17	26	9 3/4 Lb.	18.50	11.10
Line Transformer No. 8750 for Above Speakers							1 1/2 Lb.	1.95	1.17
Universal Plate Transformer No. 8761 for Above Speakers							1 1/2 Lb.	1.95	1.17
GS12P	12 Inch	4 Lb.	8	1 1/2 Inch	20	30	12 3/4 Lb.	27.50	16.50
H12P	12 Inch	7 Lb.	8	1 1/2 Inch	22	33	15 3/4 Lb.	33.75	20.25
Line Transformer No. 8753 for Above Speakers							2 1/4 Lb.	2.25	1.35
Universal Plate Transformer No. 8764 for Above Speakers							2 1/4 Lb.	2.25	1.35
GS15P	15 Inch	4 Lb.	8	1 1/2 Inch	22	33	15 1/2 Lb.	29.50	17.70
H15P	15 Inch	7 Lb.	8	1 1/2 Inch	24	36	18 1/2 Lb.	39.50	23.70
Line Transformer No. 8754 for Above Speakers							2 1/4 Lb.	2.25	1.35
Universal Plate Transformer No. 8765 for Above Speakers							2 1/4 Lb.	2.25	1.35
K15P	15 Inch	15 Lb.	8	2 Inch	27	40	32 Lb.	79.50	47.70
L15P	15 Inch	23 Lb.	8	2 Inch	30	43	40 Lb.	104.50	62.70
500 Ohm Transformers No. 8973 for above speakers							3 1/4 Lb.	4.00	2.40
G6P	6 Inch	20 Oz.	6-8	3/4 Inch	5.5	8	4 1/2 Lb.	7.50	4.50
Line Transformer No. 8749 for above speaker							1 Lb.	1.50	.90
Universal Plate Transformer No. 8760 for above speaker							1 Lb.	1.50	.90

NOTE—All Line Transformers Tapped for 500—1000—1500—2000 Ohms.

UTAH FREQUENCY MODULATION SPEAKERS

Stock Number	Cone Housing Diameter	Magnet Weight	Voice Coil Impedance	Voice Coil Diameter	Normal Wattage	Peak Wattage	Shipping Weight	List Price	Net Price
FP-820	8 Inch	20 Oz.	8	1 Inch	10	15	4 1/2 Lb.	\$10.25	\$6.15
FP-1020	10 Inch	20 Oz.	8	1 Inch	11	17	5 1/4 Lb.	12.00	7.20
FP-1220	12 Inch	20 Oz.	8	1 Inch	13	20	6 1/2 Lb.	15.00	9.00
Line Transformer No. 8749 for above speakers							1 Lb.	1.50	.90
Universal Plate Transformer No. 8760 for above speakers							1 Lb.	1.50	.90

IMPORTANT INSTRUCTIONS

For Ordering Replacement Cone and Voice Coil Assemblies

In ordering cone replacements, it is absolutely necessary to supply us with all the numbers stamped on the speaker. All speakers are stamped with three sets of numbers, and on many speakers, with the voice coil impedance. One number designates the date on which the speaker was made; one is our catalog stock number; and the third is our production number which gives us the complete specifications of the speaker.

When all the numbers are given on your order, we shall be able to supply the correct cone and voice coil assembly for the designated speaker. It is also helpful if you can inform us of the voice coil impedance and whether the spider is of the bakelite or corrugated paper construction. . . . REMEMBER, THE STOCK NUMBER OF THE SPEAKER DOES NOT GIVE US COMPLETE INFORMATION.

Utah

STANDARD FIDELITY SPEAKERS

PERMO-DYNAMIC MODELS Completely Dustproofed

Stock Number	Cone Housing Diameter	Magnet Weight	Voice Coil Impedance	Voice Coil Diameter	Normal Wattage	Peak Wattage	Shipping Weight	List Price	Net Price
3P	3½ Inch	5 Oz.	3-5	½ Inch	2.5	3.75	1 Lb.	\$2.70	\$1.62
Single 25L6 Output Transformer No. 8757 (2000 Ohm Impedance) for Above Speaker							½ Lb.	.60	.36
3PY	3½ Inch	1½ Oz.	2.5	½ Inch	2.0	3.0	12 Oz.	\$1.60	.96
3PZ	3½ Inch	2½ Oz.	2.5	½ Inch	2.0	3.0	13 Oz.	1.85	1.11
4PY	4 Inch	1½ Oz.	2.5	½ Inch	2.5	3.75	13 Oz.	1.65	.99
4PZ	4 Inch	2½ Oz.	2.5	½ Inch	2.5	3.75	1 Lb.	1.90	1.14
5PY	5 Inch	1½ Oz.	2.5	½ Inch	3.0	4.5	13 Oz.	1.75	1.05
5PZ	5 Inch	2½ Oz.	2.5	½ Inch	3.0	4.5	1 Lb.	1.95	1.17
Single Output Transformer No. 8770 (25L6—25L6G—25L6GT—25B6G—35L6GT-48, 2000 Ohm. Impedance) for Above Speakers							½ Lb.	.60	.36
Single Output Transformer No. 8771 (6V6—6YUG—25A6—25A6G—25A7G—43—71A, 4000 Ohm. Impedance) for Above Speakers							½ Lb.	.60	.36
Single Output Transformer No. 8772 (1C5G—1G5G—6A4—6F6—6G6G—6K6GT—20—30—1H4G—31—33—38—89—112A—41—42, 10,000 Ohm. Impedance) for Above Speakers							½ Lb.	.60	.36
Single Output Transformer No. 8773 (1A5G—1F4—1F5G—25,000 Ohm Impedance) for Above Speakers							½ Lb.	.60	.36
5P	5 Inch	5 Oz.	6	¾ Inch	3	4.5	1¼ Lb.	2.75	1.65
Line Transformer No. 8755 for Above Speaker							½ Lb.	.85	.51
Universal Plate Transformer No. 8758 for Above Speaker							½ Lb.	.85	.51
6P	6 Inch	5 Oz.	6-8	¾ Inch	4	6	1¾ Lb.	3.30	1.98
Line Transformer No. 8746 for Above Speaker							¾ Lb.	.85	.51
Universal Plate Transformer No. 8759 for Above Speaker							¾ Lb.	.85	.51
8P	8 Inch	5 Oz.	6-8	¾ Inch	7	11	2½ Lb.	4.00	2.40
E8P	8 Inch	7 Oz.	6-8	¾ Inch	7	11	2¾ Lb.	4.50	2.70
Line Transformer No. 8747 for Above Speakers							¾ Lb.	.85	.51
Universal Plate Transformer No. 8759 for Above Speakers							¾ Lb.	.85	.51
10P	10 Inch	12 Oz.	6-8	1 Inch	9	14	4½ Lb.	6.25	3.75
12P	12 Inch	12 Oz.	6-8	1 Inch	10	15	5¾ Lb.	8.75	5.25
Line Transformer No. 8749 for Above Speakers							1 Lb.	1.50	.90
Universal Plate Transformer No. 8760 for Above Speakers							1 Lb.	1.50	.90

NOTE—All Line Transformers Tapped for 500—1000—1500—2000 Ohms.



THE NEW UTAH BI-DIRECTIONAL SPEAKERS

The Utah Bi-Directional Speaker embodying the latest speaker design and construction features, has been especially developed and engineered for factory call and paging systems.

Their sturdy construction and improved de-

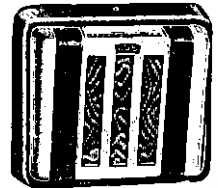
sign combined with their popular price make them ideal for factories, hotels, clubs, etc. The baffles are molded, non-metallic. There is no excessive low frequency response to distort intelligibility. A swivel joint bracket assures correct mounting.

Stock Number	Cone Housing Diameter	Magnet Weight	Voice Coil Impedance	Voice Coil Diameter	Normal Wattage	Peak Wattage	Dimensions (Inches)	Shipping Weight	List Price	Net Price
W-800	8 Inch	12 Oz.	6-8	¾ Inch	8	12	9½ x 5	6¼ Lb.	\$10.75	\$6.45
List Price Includes Line Transformer. 1 to 8 speakers can be connected across 250 or 500 Ohm line. Transformer tapped for 500—1000—1500—2000 Ohms										
W-801	8 Inch	12 Oz.	6-8	¾ Inch	8	12	9½ x 5	6¼ Lb.	\$10.75	\$6.45
List Price Includes Line Transformer. 9 to 20 speakers can be connected across 250 or 500 Ohm line. Transformer tapped for 2500—3750—4000—4750 Ohms.										

UTAH WALL REPRODUCER

The new Utah Wall Reproducer is the effective solution for sound systems that require a reproducer for music as well as voice. Its low price makes it an economical one as well. The finish blends with any decorative scheme.

The tone quality has been immeasurably improved by the molded, non-metallic housing. Ideal coverage of a given area is assured because of the scientifically engineered angle of the new Utah Wall Reproducer.

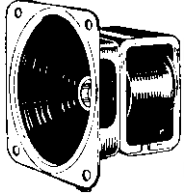


Stock Number	Cone Housing Diameter	Magnet Weight	Voice Coil Impedance	Voice Coil Diameter	Normal Wattage	Peak Wattage	Dimensions (Inches)	Shipping Weight	List Price	Net Price
W-810	8 Inch	12 Oz.	6-8	¾ Inch	8	12	13 x 11	4 Lb.	\$9.50	\$5.70
Line Transformer No. 8747 for above wall reproducer								¾ Lb.	.85	.51
Universal Plate Transformer No. 8759 for above wall reproducer								¾ Lb.	.85	.51

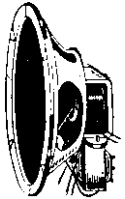
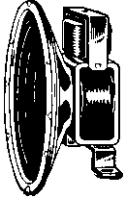
Utah

REPLACEMENT SPEAKERS

UTAH "Q" SERIES REPLACEMENT SPEAKERS



Stock Number	Cone Housing Diameter	Field Resistance (Ohms)	Voice Coil Diameter	Shipping Weight	List Price	Net Price
Q330	3 1/2 Inch	3000	1/2 Inch	1 Lb.	\$2.25	\$1.35
Q345	3 1/2 Inch	450	3/8 Inch	1 Lb.	2.25	1.35
Single 25L6 Output Transformer (2000 Ohm Impedance) No. 8757 for Above Speaker				1 1/2 Lb.	.60	.36
Q-427	4 Inch	2750	1/2 Inch	1 1/2 Lb.	2.25	1.35
Q-445	4 Inch	450	1/2 Inch	1 1/2 Lb.	2.25	1.35
Q506	5 Inch	6	3/4 Inch	1 1/2 Lb.	2.25	1.35
Q510	5 Inch	1000	3/8 Inch	1 1/2 Lb.	2.25	1.35
Q518	5 Inch	1800 Tapped at 300	3/8 Inch	1 1/2 Lb.	2.25	1.35
Q530	5 Inch	3000 Tapped at 2500	3/8 Inch	1 1/2 Lb.	2.25	1.35
Q545	5 Inch	450	3/8 Inch	1 1/2 Lb.	2.25	1.35
Single Output Transformer No. 8770 (25L6—25L6G—25L6GT—25B6G—35L6GT-48, 2000 Ohm Impedance) for Above Speakers				1/2 Lb.	.60	.36
Single Output Transformer No. 8771 (6V6—6V6G—25A6—25A6G—25A7G—43—71A, 4000 Ohm Impedance) for Above Speakers				1/2 Lb.	.60	.36
Single Output Transformer No. 8772 (1C5G—1G5G—6A4—6F6—6G6G—6K6GT—20—30—11H4G—31—33—3S—39—112A—11—42, 10,000 Ohm Impedance) for Above Speakers				1/2 Lb.	.60	.36
Single Output Transformer No. 8773 (1A5G—1F4—1F5G, 25,000 Ohm Impedance) for Above Speakers				1/2 Lb.	.60	.36
Shipping Weight of Above Transformers				1/2 Lb.		
NOTE —Above Speakers except Q506 Equipped with Mounting Bracket.						
NOTE —Special Triangular Mounting Bracket for Crosley Sets— Stock Number P7705 —List Price .25						
NOTE —Above Transformers available with Type D. Chassis style mounting at same prices.						

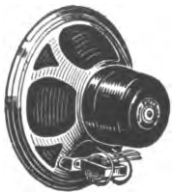
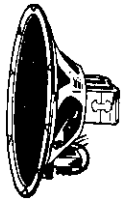


Stock Number	Cone Housing Diameter	Field Resistance (Ohms)	Voice Coil Diameter	Shipping Weight	List Price	Net Price
Q606	6 Inch	6	5/8 Inch	2 1/2 Lb.	\$3.40	\$2.04
Q610	6 Inch	1000	5/8 Inch	2 1/2 Lb.	3.40	2.04
Q618	6 Inch	1800 Tapped at 300	5/8 Inch	2 1/2 Lb.	3.40	2.04
Q620	6 Inch	2000	5/8 Inch	2 1/2 Lb.	3.40	2.04
Q625	6 Inch	2500	5/8 Inch	2 1/2 Lb.	3.40	2.04
Q810	8 Inch	1000	3/4 Inch	3 1/2 Lb.	4.60	2.76
Q818	8 Inch	1800 Tapped at 300	3/4 Inch	3 1/2 Lb.	4.60	2.76
Q820	8 Inch	2000	3/4 Inch	3 1/2 Lb.	4.60	2.76
Q825	8 Inch	2500	3/4 Inch	3 1/2 Lb.	4.60	2.76
Q1010	10 Inch	1000	1 Inch	5 1/4 Lb.	6.50	3.90
Q1015	10 Inch	1500	1 Inch	5 1/4 Lb.	6.50	3.90
Q1020	10 Inch	2000	1 Inch	5 1/4 Lb.	6.50	3.90
Q1025	10 Inch	2500	1 Inch	5 1/4 Lb.	6.50	3.90
Q1210	12 Inch	1000	1 Inch	6 3/4 Lb.	7.50	4.50
Q1215	12 Inch	1500	1 Inch	6 3/4 Lb.	7.50	4.50
Q1220	12 Inch	2000	1 Inch	6 3/4 Lb.	7.50	4.50
Q1225	12 Inch	2500	1 Inch	6 3/4 Lb.	7.50	4.50

NOTE—Universal Transformer—Standard Equipment on Above Speakers.

THE FAMOUS UTAH "R" SERIES REPLACEMENT DYNAMIC SPEAKERS

The "R" Series combines maximum performance at lowest possible cost. One size heavier wire used in the field gives higher flux density resulting in better efficiency and damping and purer tone quality. Bucking coil for "humless" performance used throughout the entire "R" series. Undoubtedly the best speaker value in the industry.



Stock Number	Cone Housing Diameter	Field Resistance (Ohms)	Voice Coil Diameter	Shipping Weight	List Price	Net Price
R345	3 1/2 Inch	450	5/8 Inch	1 Lb.	\$2.75	\$1.65
R506	5 Inch	6	5/8 Inch	1 1/2 Lb.	3.25	1.95
R510	5 Inch	1000	5/8 Inch	1 1/2 Lb.	3.25	1.95
R518	5 Inch	1800 Tapped at 300	5/8 Inch	1 1/2 Lb.	3.25	1.95
R530	5 Inch	3000 Tapped at 2500	5/8 Inch	1 1/2 Lb.	3.25	1.95
R545	5 Inch	450	5/8 Inch	1 1/2 Lb.	3.25	1.95
R606	6 Inch	6	3/4 Inch	2 1/4 Lb.	3.75	2.25
R610	6 Inch	1000	3/4 Inch	2 1/4 Lb.	3.75	2.25
R618	6 Inch	1800 Tapped at 300	3/4 Inch	2 1/4 Lb.	3.75	2.25
R620	6 Inch	2000	3/4 Inch	2 1/4 Lb.	3.75	2.25
R625	6 Inch	2500	3/4 Inch	2 1/4 Lb.	3.75	2.25
R810	8 Inch	1000	3/4 Inch	5 Lb.	5.25	3.15
R815	8 Inch	1500	3/4 Inch	5 Lb.	5.25	3.15
R818	8 Inch	1800 Tapped at 300	3/4 Inch	5 Lb.	5.25	3.15
R820	8 Inch	2000	3/4 Inch	5 Lb.	5.25	3.15
R825	8 Inch	2500	3/4 Inch	5 Lb.	5.25	3.15
R1010	10 Inch	1000	1 Inch	7 1/4 Lb.	7.50	4.50
R1015	10 Inch	1500	1 Inch	7 1/4 Lb.	7.50	4.50
R1020	10 Inch	2000	1 Inch	7 1/4 Lb.	7.50	4.50
R1025	10 Inch	2500	1 Inch	7 1/4 Lb.	7.50	4.50
R1210	12 Inch	1000	1 Inch	8 Lb.	9.25	5.55
R1215	12 Inch	1500	1 Inch	8 Lb.	9.25	5.55
R1220	12 Inch	2000	1 Inch	8 Lb.	9.25	5.55
R1225	12 Inch	2500	1 Inch	8 Lb.	9.25	5.55

NOTE—Universal Transformers Standard Equipment on Above Speakers except No. R345 (Voice Coil Impedance 3 1/2 Ohm.) **Single 25L6 Output Transformer (2000 Ohm Impedance) No. 8757 for No. R345**—List Price 60c. Net Price 36c. (Shipping Weight 1/2 Lb.)

QUAM

SPEAKERS

with Interchangeable Transformers

QUAM Senior ELECTRO-DYNAMICS

The problems of service engineers became the problems of our engineers when planning the QUAM line of replacement speakers. Every possible situation that might confront the engineer in the field was taken into consideration. We sincerely believe that our success in solving these problems is indicated by a study of the various features that make the line distinctive. The field coils of QUAM Senior Electro Dy-

amic speakers are enclosed in Fire Underwriter's Approved metal shields. This provides weather proofing and protection from mechanical injury. Universal mounting brackets are supplied with the 4", 5", 5 1/2" and 6 1/2" speakers. The field coil pots are drilled and tapped for mounting direct to the chassis, or on a bracket. Each speaker may be installed with minimum effort.



- MODEL 40S 4" Standard List \$2.00**
 Rating 3.5 watts. Dustproofed. 10" leads. Dimensions: Dia., 4 3/8"
 Square basket; Mtg. Dia., 4 1/4"; Depth, 2 1/2". Ship. Wgt., 1 1/4 lbs.
 Model 40SM—Same as 40S EXCEPT depth 2 3/8".
- MODEL 50S 5" Standard List \$2.00**
 Rating 3.5 watts. Dustproofed. 10" leads. Dimensions: Dia., 5"
 Round basket; Mtg. Dia., 4 1/4"; Depth, 2 1/8". Ship. Wgt., 2 lbs.
- MODEL 55S 5 1/2" Standard List \$2.65**
 Rating 4.5 watts. Dustproofed. 10" leads. Dimensions: Dia., 5 7/8"
 Square basket; Mtg. Dia., 6 1/4"; Depth, 2 3/8". Ship. Wgt., 2 1/2 lbs.
- MODEL 65M 6 1/2" Modified List \$2.80**
 Rating 4.5 watts. Dustproofed. 12" leads. Dimensions: Dia., 6 1/2"
 Round basket; Mtg. Dia., 6 1/4"; Depth, 2 3/8". Ship. Wgt., 2 1/2 lbs.

- MODEL 65S 6 1/2" Standard List \$3.25**
 Rating 5.5 watts. Dustproofed. 15" leads. Dimensions: Dia., 6 1/2"
 Round basket; Mtg. Dia., 6 1/4"; Depth, 3 1/8". Ship. Wgt., 2 3/4 lbs.
- MODEL 80M 8" Modified List \$3.95**
 Rating 6 watts. Dustproofed. 18" leads. Coil pot cover. Dimensions:
 8" Round basket; Mtg. Dia., 7 1/4"; Depth, 3 1/8". Ship. Wgt. 3 lbs.
- MODEL 80S 8" Standard List \$4.80**
 Rating 8 watts. Dustproofed. Coil pot cover. 18" leads. Dimensions:
 8" Round basket; Mtg. Dia., 7 1/4"; Depth, 4 1/8". Ship. Wgt., 4 1/2 lbs.
- MODEL 120S 12" Standard List \$6.85**
 Rating 12 watts. Dustproofed. 24" leads. Black finish with chromi-
 um pot cover. Dimensions: 12" Round basket; Mounting Dia.,
 11 1/8"; Depth, 5 3/8". Ship Wgt. 8 1/2 lbs.

Field resistances are indicated by part numbers. Be sure to specify part numbers and model numbers when ordering.

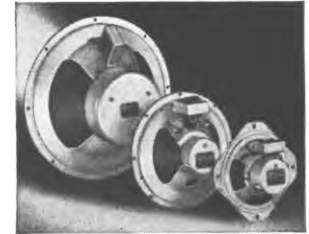
Field	Models 40S	40SM	50S	55S	65M	65S	80M	80S	120S
3000 Ohms	43038	43038M	53038	553038	6M3038	63037			
2500 Ohms	42537	42537M	52537	552537	6M2537	62536	8M2536	82535	122535
1800 Ohms	41836	41836M	51836	551836	6M1836	61835	8M1835	81834	
1500 Ohms									121533
1000 Ohms	41035	41035M	51035	551035	6M1035	61034	8M1034	81033	121032
450 Ohms*	44533*	44533M*	54533*	554533*	6M4533*	64532*	8M4532*		
0 Volt	4024	4024M	5023	55623	6M623	6622	8M622	8621	

*Bucking Coil included. Voice coil impedances on above speakers 4 ohms at 400 cycles. Transformer mounting brackets included on all speakers. List prices do not include transformers. See reverse side for matching transformers.

QUAM Senior P. M. DYNAMICS

Service and sound engineers have adopted QUAM Senior P. M. Dynamics as their standard. These units are designed to fill the demand for speakers with unusual power handling capacity. They have excellent frequency response characteristics. The arc welded construction used insures permanent alignment of integral parts. QUAM

Senior P. M. Dynamics are suited for a wide range of installations such as AC and AC-DC sets, automobile sets and battery portables, home sets, public address systems, inter-office communication systems, and as auxiliary speakers. They do not require current for field excitation.



- MODEL 40PM 4" 5 oz. Magnet List \$3.00**
 Rating 3.5 watts. Completely dustproofed. Dimensions: Dia., 4 3/8"
 Square basket; Mtg. Dia., 4 1/4"; Depth, 2 1/8". Ship. Wgt., 2 1/2 lbs.
- MODEL 50PM 5" 5 oz. Magnet List \$3.00**
 Rating 3.5 watts. Completely dustproofed. Dimensions: Dia., 5"
 Round basket; Mtg. Dia., 4 1/4"; Depth, 2 1/8". Ship. Wgt., 2 1/2 lbs.
- MODEL 55PM 5 1/2" 8 oz. Magnet List \$3.60**
 Rating 4.5 watts. Completely dustproofed. Dimensions: Dia., 5 7/8"
 Square basket; Mounting Dia., 6 1/4"; Depth, 2 3/8". Ship. Wgt. 2 3/4 lbs.
- MODEL 65PM 6 1/2" 8 oz. Magnet List \$3.80**
 Rating 5.5 watts. Completely dustproofed. Dimensions: Dia., 6 1/2"
 Round basket; Mounting Dia., 6 1/4"; Depth, 2 3/8". Ship. Wgt. 2 3/4 lbs.
- MODEL 80PM 8" 8 oz. Magnet List \$4.50**
 Rating 7 watts. Completely dustproofed. Dimensions: Dia., 8"
 Round basket; Mtg. Dia., 7 1/4"; Depth, 3 1/8". Ship. Wgt., 3 lbs.
- Voice coil impedances on 120 PM, M120PM, D80PM and S80PM, 6 ohms at 400 cycles. Transformer mounting brackets included on all speakers. List prices do not include transformers. See reverse side for matching transformers.

- MODEL S80PM 8" 28 oz. Magnet List \$8.40**
 Rating 10 watts. Pot cover. Completely dustproofed. Di-
 mensions: Dia., 8" Round basket; Mounting Dia., 7 1/4"; Depth 3 1/8".
 Ship. Wgt. 5 3/4 lbs.
- MODEL D80PM 8" 48 oz. Magnet List \$11.00**
 Rating 15 watts. Pot cover. Completely dustproofed. Dia., 8"
 Round basket; Mtg. Dia., 7 1/4"; Depth, 4 1/8". Ship. Wgt., 7 1/2 lbs.
- MODEL M120PM 12" 28 oz. Magnet List \$10.95**
 Rating 15 watts. Pot cover. Completely dustproofed. Dia., 12"
 Round basket; Mtg. Dia., 11 1/8"; Depth, 5 3/8". Ship. Wgt. 7 lbs.
- MODEL 120PM 12" 48 oz. Magnet List \$14.85**
 Rating 25 watts. Pot cover. Completely dustproofed. Dia., 12"
 Round basket; Mtg. Dia., 11 1/8"; Depth, 5 3/8". Ship. Wgt. 8 1/2 lbs.
- S80PM, 6 ohms at 400 cycles. All other speakers at 400 cycles. Transformer mounting brackets included on all speakers. List prices do not include transformers. See reverse side for matching transformers.

QUAM Permanic SPEAKERS

- MODEL 40 4" Permanic List \$1.90**
 10" leads. Dimensions: Dia., 4 3/8"
 Square basket; Mounting Dia.,
 4 1/4"; Depth, 2 3/8". Ship. Wgt.
 3/4 lb.
- | MODEL | TUBE IMPEDANCE |
|-------|----------------|
| 40L | Low |
| 40M | Medium |
| 40H | High |
| 40C | 500 ohm line |

- MODEL 50 5" Permanic List \$1.90**
 10" leads. Dimensions: Dia., 5"
 Round basket; Mounting Dia.,
 4 1/4"; Depth, 2 3/8". Ship. Wgt.
 1 lb.
- | MODEL | TUBE IMPEDANCE |
|-------|----------------|
| 50L | Low |
| 50M | Medium |
| 50H | High |
| 50C | 500 ohm line |

- MODEL 65 6 1/2" Permanic List \$2.25**
 10" leads. Dimensions: Dia., 6 1/2"
 Round basket; Mounting Dia.,
 6 1/4"; Depth, 2 3/8". Ship. Wgt.
 1 1/2 lbs.
- | MODEL | TUBE IMPEDANCE |
|-------|----------------|
| 65L | Low |
| 65M | Medium |
| 65H | High |
| 65C | 500 ohm line |



Check this listing of tube impedances for correct selections

LOW IMPEDANCE TUBES (Order 40L, 50L or 65L)

Types 48 and 48 in push-pull, single types 43, 45, 59, 71A, 12A5, 25L6, 32L7, 50L6, 25B5 and for any type of output tube in single or push-pull having a total primary load impedance of 2000 to 6000 ohms.

MEDIUM IMPEDANCE TUBES (Order 40M, 50M or 65M)

Types 43, 45, 71A in push-pull and single types 10, 12A, 18, 19, 20, 31, 33, 38, 41, 42, 43, 46, 47, 49, 59, 89, 2A5, 6A4, 6AG, 12A5, 1A, GA, PZ, 1C5, 1Q5, 6K6, 6F6, 6C6 and for any type of output tube in single or push-pull having a total primary load imp. of 6000 to 12,000 ohms.

HIGH IMPEDANCE TUBES (Order 40H, 50H or 65H)

Types 10, 12A, 18, 19, 20, 31, 33, 38, 41, 42, 46, 47, 79, 59, 89, 2A5, 6A4, 1A, 6A6, in push-pull and single types 38, 49, 12A7, 1A5, and for any type of output tube in single or push-pull having a total primary load impedance of 12,000 to 25,000 ohms.

QUAM

SPEAKERS

with Interchangeable Transformers

QUAM Junior Electro-Dynamics



The demand for lower priced replacement speakers carrying the full guarantee of the manufacturer resulted in the QUAM JUNIOR Replacement Line. These speakers are constructed of quality materials and give excellent performance characteristics. The finish is baked brown enamel.

MODEL 40J 4" Junior List \$1.70
Rating 2.5 watts, 10" leads. Dimensions: Dia., 4 $\frac{1}{2}$ " Square basket; Mounting Dia., 4 $\frac{1}{2}$ "; Depth, 1 $\frac{1}{2}$ ". Ship. Wgt. 1 $\frac{1}{4}$ lbs.

MODEL 50J 5" Junior List \$1.70
Rating 2.5 watts, 10" leads. Dimensions: Dia., 5" Round basket; Mounting Dia., 4 $\frac{1}{2}$ "; Depth, 2 $\frac{1}{2}$ ". Ship. Wgt. 2 lbs.

MODEL 65J 6 $\frac{1}{2}$ " Junior List \$1.95
Rating 3.5 watts, 12" leads. Dimensions: Dia., 6 $\frac{1}{2}$ " Round basket; Mounting Dia., 6 $\frac{1}{2}$ "; Depth, 2 $\frac{3}{4}$ ". Ship. Wgt. 2 $\frac{1}{2}$ lbs.

MODEL 80J 8" Junior List \$3.00
Rating 4 watts, 15" leads. Dimensions: Dia., 8" Round basket; Mounting Dia., 7 $\frac{1}{4}$ "; Depth, 3 $\frac{1}{2}$ ". Ship. Wgt. 2 $\frac{1}{2}$ lbs.

Field resistances are indicated by part numbers. Be sure to specify part numbers and model numbers when ordering.

Field	40J	50J	65J	80J
3000 Ohms	4JD30	5JD30	6JD30	8JD30
2500 Ohms	4JD25	5JD25	6JD25	8JD25
1800 Ohms	4JD18	5JD18	6JD18	8JD18
1000 Ohms	4JD10	5JD10	6JD10	8JD10
450 Ohms*	4JD45*	5JD45*	6JD45*	8JD45*
6 Volt†	4JD1†	5JD1†	6JD1†	8JD1†

*Rucking Coil included. †Dustproofed.
Voice coil impedances on above speakers 4 ohms at 400 cycles. Transformer mounting brackets included on all speakers. List prices do not include transformers. See column at right for matching transformers.

QUAM Cabinet SPEAKERS



Suitable for table or wall mounting. Scientifically designed and constructed of seasoned hardwood throughout to provide clear, wide range reproduction. Cabinets are not sold separately.

To arrive at complete unit price, add list price of cabinet to list price of speaker. Any 12" QUAM speaker can be ordered installed in the 120 cabinet and any 8" QUAM speaker in the 80 cabinet.

SPEAKER CABINET 120 List \$9.65
Cabinet Only. For 12" speaker. Not sold separately. Dimensions: Height 15", Width 14", Depth at Base 9 $\frac{1}{2}$ ", at Top, 5". Ship. Wgt. 9 lbs.

SPEAKER CABINET 80 List \$5.50
Cabinet Only. For 8" speaker. Not sold separately. Dimensions: Height, 11 $\frac{1}{2}$ "; Width, 11 $\frac{3}{4}$ "; Depth at Base, 5"; at Top, 3". Ship. Wgt. 4 lbs.

QUAM Junior P. M. Dynamics



Well designed and built. Performance characteristics are excellent. Made in various sizes and specifications for table models, consoles, automobile sets, battery portables and intercommunication systems. The finish is baked brown enamel.

MODEL 4JP2 4" List \$1.60
Rating 1.5 watts, L.F.S. dustproofing. Dimensions: Dia., 4 $\frac{1}{2}$ " Square basket; Mounting Dia., 4 $\frac{1}{2}$ "; Depth, 1 $\frac{1}{2}$ ". Ship. Wgt. 1 $\frac{1}{4}$ lbs. 2 oz. Magnet.

MODEL 4JP4 4" List \$2.00
Rating 2.5 watts, L.F.S. dustproofing. Dimensions: Dia., 4 $\frac{1}{2}$ " Square basket; Mounting Dia., 4 $\frac{1}{2}$ "; Depth, 1 $\frac{1}{2}$ ". Ship. Wgt. 1 $\frac{1}{4}$ lbs. 4 oz. Magnet.

MODEL 5JP2 5" List \$1.60
Rating 1.5 watts, L.F.S. dustproofing. Dimensions: Dia., 5" Round basket; Mounting Dia., 4 $\frac{1}{2}$ "; Depth, 2 $\frac{1}{2}$ ". Ship. Wgt. 1 $\frac{3}{4}$ lbs. 2 oz. Magnet.

MODEL 5JP4 5" List \$2.00
Rating 2.5 watts, L.F.S. dustproofing. Dimensions: Dia., 5" Round basket; Mounting Dia., 4 $\frac{1}{2}$ "; Depth, 2 $\frac{1}{2}$ ". Ship. Wgt. 1 $\frac{3}{4}$ lbs. 4 oz. Magnet.

MODEL 6JP4 6 $\frac{1}{2}$ " List \$2.50
Rating 2.5 watts, L.F.S. dustproofing. Dimensions: Dia., 6 $\frac{1}{2}$ " Round basket; Mounting Dia., 6 $\frac{1}{2}$ "; Depth, 2 $\frac{3}{4}$ ". Ship. Wgt. 2 $\frac{1}{4}$ lbs. 4 oz. Magnet.

MODEL 8JP5 8" List \$3.00
Rating 3.5 watts, L.F.S. dustproofing. Dimensions: Dia., 8" Round basket; Mounting Dia., 7 $\frac{1}{4}$ "; Depth, 3 $\frac{1}{2}$ ". Ship. Wgt. 2 $\frac{3}{4}$ lbs. 5 oz. Magnet.

MODEL 8JP7 8" List \$3.50
Rating 6 watts, L.F.S. dustproofing. Dimensions: Dia., 8" Round basket; Mounting Dia., 7 $\frac{1}{4}$ "; Depth, 3 $\frac{1}{2}$ ". Ship. Wgt. 2 $\frac{3}{4}$ lbs. 7 oz. Magnet.

Voice coil impedances on above speakers 4 ohms at 400 cycles. Transformer mounting brackets included on all speakers. List prices do not include transformers. See column at right for matching transformers.

QUAM Permanic Microphones

A truly sensational microphone that requires no batteries or transformer. Compares favorably with a crystal microphone and yet it costs only about one third as much! Frequency range of 60 to 8000 cycles with an output level of -50 DB. Connects directly to the grid of the amplifier tube in any radio set. Finds many uses for home broadcasting, sales meetings, call systems, truck hallyhoos, amateur radio use, and wherever a low priced, sturdy microphone is needed. Also used in conjunction with wireless record players. Available in brown or black crackle finish. (Brown furnished unless black specified.)



5' cord and pin tip connectors. List \$3.00
5' shielded cable and pin tip connectors. List \$3.25
With 20' cord, not shielded. List \$3.45
Dimensions: Height, 5 $\frac{3}{4}$ "; Width, 4 $\frac{1}{4}$ "; Base Diameter 3 $\frac{1}{2}$ ". Ship. Wgt. 1 $\frac{1}{2}$ lbs.

Select Matching Transformers from this list

One of the greatest contributions to servicing is the interchangeable transformer. This feature, pioneered by QUAM, continues to meet with universal enthusiasm. Prior to the inception of this feature, engineers in the field had to be content with transformers having various matches which were not only inefficient, but costly, or wait for factory delivery of proper transformers. The transformer with correct matching impedance renders greater value in truer tone at less cost. All QUAM replacement transformers are manufactured from quality materials and are made impervious to climatic conditions by vacuum wax impregnation.

Models 40S, 40SM, 50S, 55S, 65M, 40PM, 50PM, 55PM, 40J, 50J, 65J, 4JP2, 4JP4, 5JP2, 5JP4, 6JP4

No.	Impedance	Tube
T-773	2000 ohm	25B5, 25L6, etc.
T-704	4000 ohm	25A7, 43, etc.
T-706	7000 ohm	2A5, 42, 6F6, 47
T-717	10000 ohm	41, 89, etc.

LIST PRICE — EACH\$0.60

Model 65S, 80M, 65PM, 80PM, 80J, 8JP5, 8JP7

No.	Impedance	Tube
T-774	2000 ohm	25B5, 25L6, etc.
T-543	4000 ohm	25A7, 43, etc.
T-548	7000 ohm	2A5, 42, 6F6, 47
T-557	10000 ohm	89, 41, etc.
T-733	10000 ohm	P.P., 6F6, 19, etc.

(plate to plate)
T-747 500 and 1000 ohm line
LIST PRICE — EACH\$0.70
Transformers listed above can be furnished with metal shells. Add 10c to list price.

Size — $\frac{1}{2}$ x $\frac{5}{8}$
T-752 Universal (all tubes) List \$1.00

Models 80S, 80PM

No.	Impedance	Tube
T-771	2000 ohm	25B5, 25L6, etc.
T-767	4000 ohm	43, etc.
T-718	7000 ohm	42, 6F6, etc.
T-797	10000 ohm	41, etc.

LIST PRICE — EACH\$0.85
T-743 14000 ohm P.P., 42, 6F6, etc.

(plate to plate)
T-798 8000 ohm P.P., 43

(plate to plate)
T-744 500 and 1000 ohm line
T-745 10000 ohm P.P., 41, 6F6, etc.

(plate to plate)
LIST PRICE — EACH\$1.00
T-751 Universal.....All Tubes List \$1.35

Models 120S, 80PM, D80PM, M120PM, 120PM

No.	Impedance	Tube
T-799	2500 ohm	2A3-45, etc.
T-559	4000 ohm	6L6, 6V6, etc.
T-740	7000 ohm	42, 2A5, etc.
T-546	10000 ohm	41, 49, etc.

LIST PRICE — EACH\$1.10
T-741 14000 ohm P.P., 42, etc.

(plate to plate)
T-749 10000 ohm P.P., 41, etc.

(plate to plate)
T-748 5000 ohm P.P., 2A3, 45, 6L6, etc.

(plate to plate)
T-742 500 and 1000 ohm line
LIST PRICE — EACH\$1.30
T-750 Universal.....All tubes List \$1.60

NON-RESONANT
WATERPROOF
LOUDSPEAKERS



HIGH
QUALITY
REPRODUCTION

HIGH EFFICIENCY REFLEXED LOUDSPEAKERS

The invention and development of University Reflexed Loudspeakers constitute one of the few really important additions to the art of acoustic reproducers in recent years.

It represents a fusing together of the basic scientific instrument for the high efficiency reproduction of sound, with the modern streamline concepts in engineering design.

A few of the important features of University Reflexed loudspeakers are listed below:

- Absolutely Non-Resonant under all conditions.
- Efficient enough to cut amplifier cost in half.
- 25 watts power rating cuts down number of speakers
- High acoustic output overcomes worst background noise
- Totally waterproof under all climatic conditions.
- Uniform frequency response eliminates "microphonics".
- Unbreakable diaphragm increases life of installation.
- Razor sharp clarity on voice reproduction.

All University Reflexed loudspeakers include the following as standard equipment:

- Non-Resonant acoustic rubber rims to eliminate resonance.
- Universal U bracket for a quick permanent mounting.
- Dust covers for driver units (only with PAH or PLH units).

Although outwardly of the appearance of cone speaker projectors, the University Reflexed Projectors are of the high efficiency exponential air-column type.

It is a well known fact that the driver unit-exponential horn loudspeaker possesses the highest possible acoustic efficiency, a correctly designed combination having up to 50% electro-acoustic conversion efficiency at speech frequencies. Compare this with the usual 10-15% for cone speakers with projectors.

University Reflexed loudspeakers therefore have the following advantages due to high efficiency:

- Less amplifier power for given coverage.
- Double the acoustic power with the same amplifier.

Great annoyance in sound installations is caused by acoustic feedback, otherwise known as "microphone howl" or "singing".

Resonance peaks in the speaker feed back acoustically to the microphone, forcing the system into a state of continuous oscillation or "singing" even at low reinforcement sound levels.

University speakers eliminate this in three ways.

- Absolutely Non-Resonant.
- Uniform frequency response at high power levels.
- No "Rear" sound projection to feed back to microphone.

Reinforcement sound levels that reproduce speech clearly through the worst type of background noise are therefore obtained without any "microphonics".

HIGH POWER PERMANENT MAGNET DRIVER UNITS

Model	SAH	PAH	PLH
List	\$30.00	\$45.00	\$60.00
Power	25 Watts	25 Watts	25 Watts
Recommended Reflexed Horns	SMH PH LH	PH LH GH	LH GH
Impedance	15 Ohms	15 Ohms	15 Ohms

The three PM Driver Units listed on this sheet should preferably be used with any of the reflexed horns recommended. Standard coupling threads used for all horns and driver units make any combination possible. The high power capacity of these driver units is due to the following:

- Unbreakable diaphragm suspension gives indefinite vibrating life.
- Duraluminium (heat proof) voice coil suspension for excess heat dissipation.
- Continuous check (for strength) at all stages of diaphragm construction.



Model	GH
List	\$65.00
Overall Length	25"
Bell	30"
Acoustic Length	6 Feet
Cut-off	90 Cycles
Recommended Use:	Symphonic Music
Projection Angle	100°

Model	LH
List	\$34.00
Overall Length	21"
Bell	25"
Acoustic Length	4 1/2 Ft.
Cut-off	115 Cycles
Recommended Use:	Voice and Music
Projection Angle	90°

Model	PH
List	\$21.00
Overall Length	16"
Bell	21"
Acoustic Length	3 1/2 Ft.
Cut-off	140 Cycles
Recommended Use:	Voice
Projection Angle	80°

Model	SMH
List	\$15.50
Overall Length	12"
Bell	14"
Acoustic Length	32"
Cut-off	180 Cycles
Recommended Use:	Voice only
Projection Angle	75°



Every part in the construction of the driver units is manufactured in our factory under the supervision of trained acoustic engineers.

The high electro-acoustic conversion efficiency of University driver units is due to the following:

- Accurately machined magnetic quality "Armco" (99.7% pure iron) pole piece assembly.
- Tested "Alnico" permanent magnets for highest flux density.
- Micrometer centering of voice coil to insure close magnetic gap tolerance.
- Acoustic coupling chamber machined to close tolerances.

WIDE
RANGE
LOUDSPEAKERS

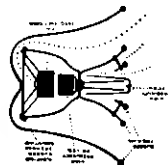


NON-RESONANT
Cone Speaker
PROJECTORS

DUAL-DRIVER WIDE FREQUENCY BAND LOUD SPEAKERS



MODEL WCC	
List	\$122.00
L. F. Bell	30"
H. F. Bell	14"
Length	22"



Model WCC loudspeaker consists essentially of two complete acoustically independent speakers, so arranged that the total output of both is blended to give perfect response over the complete audio spectrum of 60-10,000 cycles.

Due to the utilization of the most efficient reproducers for each range, the efficiency of the complete WCC loudspeaker is very high.

The high frequency reproducer consists of an air column reflexed horn, (cellular type) and high frequency driver unit. It covers the range from 300-10,000 cycles faithfully.

The cellular bell in the high frequency horn gives the exact equivalent of a multi-cellular horn, and results in a uniform high frequency distribution throughout the wide projection angle.

The low frequency reproducer consists of a special cone type speaker correctly coupled to the compound air chamber, to give perfect response in the 60-500 cycle range.

Model WCC is shipped complete with all necessary filter network parts, internally mounted and electrically connected in the speaker.

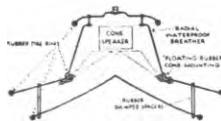
After intensive investigation, University Engineers have discovered that the essential source of metallic resonance is eliminated by damping the rim of the bell. "University Acoustic Rubber Rims" on both bells eliminate the slightest trace of this resonance.

All speaker units and parts are located inside of a special chamber which makes the loudspeaker waterproof for permanent outdoor use. Reinforced swivel type "U" fork is included as standard equipment with all speakers listed. No additional parts are required for temporary or permanent installations.

NON-RESONANT CONE SPEAKER PROJECTORS

Radial 360° Speaker Projectors

Model	Bell	List
RCP 12	27"	\$22.50
RCP 8	23"	17.00
RCP 6	20"	14.00



University Radial Cone Projectors are designed to give uniform sound projection in all horizontal directions, i.e. 360° coverage. The Projection angle is about 15° down, so as to effectively place the sound where it is most needed.

- Uniform 360 coverage with "down projection."
- Absolutely Non Resonant.
- Rain Proof for Permanent Outdoor Use.
- Easily Mounted for Chandelier or Sound Truck Use.
- Four "Rubber Tired Rims" Eliminate all Vibration & Rattles.
- Exclusive "Floating Rubber" Cone Speaker Mounting.

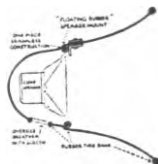
The RCP should be used in all installations where a single cone speaker must uniformly cover large areas.

RCP Projectors are shipped completely assembled but less cone speaker.

For 10" cone speakers order RCP 12 with special 10" adaptor.

Seamless Single Piece Parabolics

Model	Bell	List
SP 12	23"	\$15.50
SP 8	18"	10.50
SP 6	16"	8.00



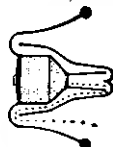
- Seamless One Piece Super Strength Construction.
- Absolutely Non Resonant.
- No Joints to Rattle or Vibrate.
- Oversize "Breather" with Screened Rubber Rims.
- "Floating Rubber" Cone Speaker Mounting.
- Universal "U" Bracket with Oversize Swivel.

The New University seamless parabolics are a unique method of construction which eliminate the defects of the older type parabolics. Projectors are shipped complete with Universal "U" bracket and oversize swivel bolts. No drilling is necessary. All clamping parts have been fitted at the factory.

HIGH EFFICIENCY BOOSTER SPEAKER



Model CR Booster Speaker:
Dimensions: Bell 11", Depth 8". Impedance: 15 ohms—standard. 4 ohms—on request. Response: 200 to 5000 cycles (high voice range efficiency). Continuous Power Handling Capacity: 20 watts. . . . Complete with built in high power PM dynamic unit and universal mounting bracket.
List . . . \$37.00



- Boosts Sound Three Times Higher Than Cone Speakers.
- Requires No Additional Amplification.
- Improves "Talk Back" Pickup Enormously.
- Can Be Connected to Any Standard Intercommunication System.
- Not a Cone Speaker.
- True Exponential Reflexed Construction.
- 100% Waterproof.

The Model CR is an ultra compact high power loudspeaker for voice reproduction. It will project sound long distances and overcome difficult background noise conditions. Its high efficiency gives the effect of an extra booster amplifier.



Radio Replacement Speakers

OVER ONE MILLION SPEAKERS YEARLY

Radio engineers, the men who design radio sets, know that a receiver is no better than its speaker. Therefore they specify "OPERADIO" and well over a million radio speakers are produced by Operadio annually, for many of the outstanding radio manufacturers in the country.

This being the case, it is reasonable to assume that

when replacements are made, an Operadio Speaker should be used.

Through the experience gained in the manufacture of these speakers, Operadio engineers have designed replacement speakers that enable the serviceman to give that "good as new" reproduction from the set which he has serviced.

ELECTRO DYNAMIC TYPE

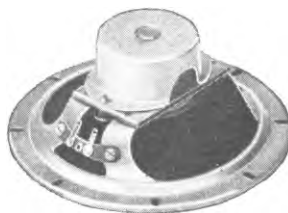
Size	Type	Field Coil Resistance	Weight	Voice Coil		Primary Transformer Impedance	Recommended Transformer	Shipping Weight	List Price
				Impedance	Diameter				
4"	45Y4T	450 ohms	3.8 oz.	3.2 ohms	1 1/2"	2000 ohms	Supplied	1 lb. 6 oz.	\$2.90
4"	10Y4	1000 ohms	3.8 oz.	3.2 ohms	1 1/2"	.....	9365 Uni.	1 lb. 1 oz.	2.30
5"	45J5	450 ohms	6 oz.	3.2 ohms	1 1/2"	.....	9366 Fix.	1 lb. 1 oz.	2.40
5"	45J5-T	450 ohms	6 oz.	3.2 ohms	1 1/2"	2000 ohms	Supplied	1 lb. 5 1/4 oz.	3.00
5"	10J5	1000 ohms	6 oz.	3.2 ohms	1 1/2"	.....	9365 Uni.	1 lb. 1 oz.	2.40
5"	15J5	1500 ohms	6 oz.	3.2 ohms	1 1/2"	.....	9365 Uni.	1 lb. 1 oz.	2.40
5"	30J5	3000 ohms	6 oz.	3.2 ohms	1 1/2"	.....	9365 Uni.	1 lb. 1 oz.	2.40
5"	30J5T	3000 ohms	6 oz.	3.2 ohms	1 1/2"	7000 ohms	Supplied	1 lb. 5 1/4 oz.	3.00
5"	05J5	5 ohms	6 oz.	3.2 ohms	1 1/2"	.....	9365 Uni.	1 lb. 1 0 z.	2.40
6"	05M6	5 ohms	6 oz.	6 ohms	3 3/4"	.....	9365 Uni.	1 b. 15oz.	2.95
6"	45M6	450 ohms	6 oz.	6 ohms	3 3/4"	.....	9366 Fix.	1 b. 15 oz.	2.95
6"	10M6	1000 ohms	6 oz.	6 ohms	3 3/4"	.....	9365 Uni.	1 lb. 15 oz.	2.95
6"	15M6	1500 ohms	6 oz.	6 ohms	3 3/4"	.....	9365 Uni.	1 lb. 15 oz.	2.95
6"	25M6	2500 ohms	6 oz.	6 ohms	3 3/4"	.....	9365 Uni.	1 b. 15 oz.	2.95
6"	30M6	3000 ohms	6 oz.	6 ohms	3 3/4"	.....	9365 Uni.	1 lb. 15 oz.	2.95
8"	04BA8	4 ohms	6.3 oz.	6 ohms	3 3/4"	.....	9367 Uni.	2lbs. 7 oz.	4.30
8"	10BA8	1000 ohms	6.3 oz.	6 ohms	3 3/4"	.....	9367 Uni.	2 lbs. 7 oz.	4.30
8"	15BA8	1500 ohms	6.3 oz.	6 ohms	3 3/4"	.....	9367 Uni.	2 lbs. 7 oz.	4.30
8"	25BA8	2500 ohms	6.3 oz.	6 ohms	3 3/4"	.....	9367 Uni.	2 lbs. 7 oz.	4.30
10"	10N3	1000 ohms	19 oz.	6 ohms	1"	.....	9368 Uni.	5 lbs. 7 1/4 oz.	7.50
10"	15N3	1500 ohms	19 oz.	6 ohms	1"	.....	9368 Uni.	5 lbs. 7 1/4 oz.	7.50
10"	25N3	2500 ohms	19 oz.	6 ohms	1"	.....	9368 Uni.	5 lbs. 7 1/4 oz.	7.50
12"	10N4	1000 ohms	19.2 oz.	6 ohms	1"	.....	9368 Uni.	5 lbs. 15 1/2 oz.	8.75
12"	15N4	1500 ohms	19.2 oz.	6 ohms	1"	.....	9368 Uni.	5 lbs. 15 1/2 oz.	8.75
12"	25N4	2500 ohms	19.2 oz.	6 ohms	1"	.....	9368 Uni.	5 lbs. 15 1/2 oz.	8.75

PERMANENT MAGNET TYPE

Size	Type	Field Resistance	Voice Coil		Magnet Weight	Recommended Transformer	Shipping Weight	List Price
			Diameter	Impedance				
3"	AMD5-R	P.M.	3/4"	6 ohms	7.15 oz.	9365 Uni.	1 lb. 10 1/2 oz.	\$3.80
6"	AM6-R	P.M.	3/4"	6 ohms	10.6 oz.	9366 Fix.	2 lbs. 4 1/2 oz.	5.10
8"	AMA8-R	P.M.	3/4"	6 ohms	10 oz.	9366 Fix.	2 lbs. 14 oz.	6.20
10"	BN3-R	P.M.	1"	6 ohms	20 oz.	9368 Uni.	4 lbs. 14 oz.	10.00
12"	BN4-R	P.M.	1"	6 ohms	20 oz.	9368 Uni.	5 lbs. 6 3/4 oz.	12.00

UNI-MATCH TRANSFORMERS — R.R. TYPE

Transformers	Recommended Speakers	Ohms	Iron Size	Shipping Weight	List Price
9365 Universal	5" and 6" Speakers	4000-8000-12000 C.T.	1 1/2" x 3/4"	20 oz.	\$1.55
9366	5" and 6" Speakers	2000 ohms-for 25L6	1 1/2" x 3/4"	16 oz.	.65
9367 Universal	8" Speakers	4000-8000-12000 C.T.	3/8" x 3/8"	20 oz.	1.65
9368 Universal	10" and 12" Speakers	4000-8000-12000 C.T.	3/4" x 3/4"	32 oz.	2.25



Public Address Speakers

The Operadio Manufacturing Company enjoys the distinction of being the leading manufacturer of loud speakers. This line of public address speakers has been engineered to make it possible for the jobber and dealer to carry a complete stock with a minimum inventory. The speakers in the most part are furnished direct to voice coil except in the case of speakers for special application. The new Operadio "Uni-Match" Transformer is so designed that the dealer or serviceman may mount any transformer

of a suitable size to any speaker and by a simple adjustment match the speaker to the desired output impedance. The power ratings shown in the specifications are based on field practice . . . not on single frequency tests. They are the power value equal to the output of the amplifier which may be used with each speaker. For example, a ten-watt amplifier would be used with perfect safety, with either a ten-watt speaker or two five-watt speakers; a twenty-watt amplifier would operate two ten-watt speakers, etc.

ELECTRO DYNAMIC TYPE

Type	Model	Recommended Transformer	Voice Coil		Field Coil		Field Excitation	Power Ratings	Shipping Weight	List Price
			Diameter	Impedance	Weight	Resistance				
E-3	HFQ	9376, 9379, 9382	1 1/2"	8 ohms	16.8 oz.	2500 ohms	7-15 watts	15 watts	5 3/4 lbs.	\$8.00
E-3	HNQ	9376, 9379, 9382	1 1/2"	8 ohms	16.8 oz.	7500 ohms	7-15 watts	15 watts	5 3/4 lbs.	8.00
S-4	GGS	Supplied, 500 ohms	1 1/2"	8 ohms	57.7 oz.	A.C. Type	12-30 watts	25 watts	20 lbs.	60.00
R-4	KFQ	9377, 9380, 9383	1 1/2"	8 ohms	57.7 oz.	2500 ohms	12-30 watts	20 watts	17 1/2 lbs.	19.75
R-4	KMQ	9377, 9380, 9383	1 1/2"	8 ohms	57.7 oz.	3000 ohms	12-30 watts	20 watts	17 1/2 lbs.	19.75
H-4	LFQ	9377, 9380, 9383	1 1/2"	8 ohms	28.8 oz.	2500 ohms	10-18 watts	18 watts	11 lbs.	15.00
H-4	LNQ	9377, 9380, 9383	1 1/2"	8 ohms	28.8 oz.	7500 ohms	10-18 watts	18 watts	11 lbs.	15.00
E-4	JFQ	9376, 9379, 9382	1 1/4"	8 ohms	16.8 oz.	2500 ohms	7-15 watts	15 watts	7 lbs.	9.25
E-4	JNQ	9376, 9379, 9382	1 1/4"	8 ohms	16.8 oz.	7500 ohms	7-15 watts	15 watts	7 lbs.	9.25
R-15	MFQ	9377, 9380, 9383	1 1/2"	8 ohms	57.7 oz.	2500 ohms	12-30 watts	30 watts	18 1/4 lbs.	26.75
R-15	MNQ	9377, 9380, 9383	1 1/2"	8 ohms	57.7 oz.	7500 ohms	12-30 watts	30 watts	18 1/4 lbs.	26.75

PERMANENT MAGNET TYPE

Size	Model	Recommended Transformer	Voice Coil		Magnet Weight	Power Ratings	Shipping Weight	List Price
			Diameter	Impedance				
6"	AM6-Q	9375, 9378, 9381	3 1/4"	6 ohms	10.6 oz.	6 1/2 watts	2 lbs. 4 1/4 oz.	\$5.25
6"	AM6-S	Supplied, 500 ohms	3 1/4"	6 ohms	10.6 oz.	6 1/2 watts	2 lbs. 12 3/4 oz.	6.25
6"	AM6-T	Supplied, 4000 ohms	3 1/4"	6 ohms	10.6 oz.	6 1/2 watts	2 lbs. 12 3/4 oz.	6.25
6"	BN6-Q	9375, 9378, 9381	1"	6 ohms	20 oz.	10 watts	3 lbs. 11 1/2 oz.	8.50
6"	BN6-S	Supplied, 500 ohms	1"	6 ohms	20 oz.	10 watts	4 lbs. 7 1/2 oz.	9.50
6"	BN6-T	Supplied, 4000 ohms	1"	6 ohms	20 oz.	10 watts	4 lbs. 7 1/2 oz.	9.50
6"	AM8-Q	9375, 9378, 9381	3 1/4"	6 ohms	10.6 oz.	8 watts	2 lbs. 14 1/2 oz.	6.85
8"	AM8-S	Supplied, 500 ohms	3 1/4"	6 ohms	10.6 oz.	8 watts	3 lbs. 10 1/2 oz.	7.85
8"	AM8-T	Supplied, 4000 ohms	3 1/4"	6 ohms	10.6 oz.	8 watts	3 lbs. 10 1/2 oz.	7.85
8"	BN8-Q	9375, 9378, 9381	1"	6 ohms	20 oz.	10 watts	3 lbs. 14 oz.	9.00
8"	BN8-S	Supplied, 500 ohms	1"	6 ohms	20 oz.	10 watts	4 lbs. 13 3/4 oz.	10.00
8"	BN8-T	Supplied, 4000 ohms	1"	6 ohms	20 oz.	10 watts	4 lbs. 13 3/4 oz.	10.00
8"	LE8-Q	9376, 9379, 9382	1 1/4"	8 ohms	3 lbs.	15 watts	7 lbs. 10 oz.	16.00
8"	NH8-Q	9377, 9380, 9383	1 1/2"	8 ohms	7 lbs.	25 watts	16 lbs. 12 oz.	34.50
10"	BN3-Q	9375, 9378, 9381	1"	6 ohms	20 oz.	10 watts	4 lbs. 14 oz.	11.25
12"	NHD4-Q	9377, 9380, 9383	1 1/2"	8 ohms	7 lbs.	20 watts	16 lbs. 4 oz.	34.75
12"	QHD4-Q	9376, 9379, 9382	1 1/2"	8 ohms	4 1/4 lbs.	15 watts	15 lbs.	25.00
12"	LE4-Q	9376, 9379, 9382	1 1/4"	8 ohms	3 lbs.	12 watts	10 lbs.	19.50
12"	BN4-Q	9375, 9378, 9381	1"	6 ohms	20 oz.	10 watts	5 lbs. 6 3/4 oz.	14.25

UNI-MATCH TRANSFORMERS — P.A. TYPE

Transformers	Recommended Speakers	Ohms	Iron Size	Shipping Weight	List Price
9375	AM6-BN6-AM8-BN8-BN3-BN4	500	3 1/4" x 3 1/4"	14 oz.	\$1.50
9376	E-3-E-4-LE-4	500	7/8" x 7/8"	36 oz.	1.75
9377	H-4-R-4-NH4-R-15	500	1" x 1"	52 oz.	3.00
9378 Universal	AM6-BN6-AM8-BN8-BN3-BN4	500-1000-1500-2000	3 1/2" x 3 1/2"	25 oz.	1.90
9379 Universal	E-3-E-4-LE-4	500-1000-1500-2000	7/8" x 7/8"	34 oz.	2.25
9380 Universal	H-4-R-4-NH4-R-15	500-1000-1500-2000	1" x 1"	48 oz.	3.75
9381 Universal	AM6-BN6-AM8-BN8-BN3-BN4	2500-3000-3500-4000	3 1/2" x 3 1/2"	31 oz.	1.90
9382 Universal	E-3-E-4-LE-4	2500-3000-3500-4000	7/8" x 7/8"	40 oz.	2.25
9383 Universal	H-4-R-4-NH4-R-15	2500-3000-3500-4000	1" x 1"	52 oz.	13.75

UNI-MATCH TRANSFORMERS



Uni-Match Transformers are designed to perfectly match Operadio Speakers to Operadio Amplifiers, but also may be used to improve any Public Address System. The attachment of these transformers to the speakers is simplicity itself. The speakers are either furnished with a bracket, or holes are provided in the basket to which the transformers are attached by means of self-tapping screws. The leads are connected in accordance with instructions contained in very concisely written instruction sheet, and the speaker is ready to reproduce that type of sound for which Operadio Speakers are noted.



UNIVERSAL *microphones*

"5mm" SERIES

Velocity Type



Outstanding for all around use; P. A. systems, orchestras, stage and drama pick up. So small and compact does not hide face of performer. Will greatly reduce feedback in any installation. Sensitive 5 mm ribbon element. Frequency response; 40-10,000 CPS. Output level; 58 db. below one volt per bar. Highly

polished Chrome finish. De Luxe equipment included in handsome package; 25 ft. rubber covered cable, with lock ring connector at housing; suspension loop; Duvello cover and "Flex-tube" (allows tilting of microphone and "stays-put"). $\frac{5}{8}$ inch-27 thread stand coupling. Microphone size; 1 $\frac{1}{4}$ inches square x 4 $\frac{1}{2}$ inches high. Weight 16 oz., packed 3 lbs.

Model	Impedance	Price
808	High	\$24.50
807	600 ohms	24.50
806	200 ohms	24.50
805	33 ohms	24.50

"CINEMA" SERIES



Distinctive in all professional applications. Beautifully chrome plated case with swivel yoke. Its rich appearance fills need for movie type microphone. Furnished with popular 15mm elements. (See 15mm models). Diameter: 2 $\frac{1}{4}$ inches, depth, 3 $\frac{1}{2}$ inches. 25 foot cable furnished. $\frac{5}{8}$ inch - 27 thread stand coupling. Lock ring connector at housing. Weight, 14 ozs., packed, 2 $\frac{1}{2}$ lbs.

connector at housing. Weight, 14 ozs., packed, 2 $\frac{1}{2}$ lbs.

DYNAMIC TYPE:—

Model	Impedance	Price
723	High	\$24.50
722	500 ohms	24.50
721	200 ohms	24.50
720	33 ohms	22.50

CRYSTAL TYPE:—

Model	Impedance	Price
716	High	\$22.50
719	500 ohms	24.50
718	200 ohms	24.50
717	33 ohms	24.50

New AIRCRAFT MODEL FOR PRIVATE CRAFT



For aircraft and marine installations; mobile transmitters, etc. Natural voice reproduction. Single button carbon. Sturdy black Bakelite case. Moisture proof cord 3 $\frac{1}{2}$ ft. Reinforced six inches from each end. Motor noises damped out by Anti-noise construction. Button impedance 200 ohms, output approximately 30 volts RMS across microphone transformer secondary. Double pole, single throw, press-to-talk switch connects microphone and relay circuit simultaneously. Complete with heavy duty "push-in" mounting bracket. Dia. 2 $\frac{1}{2}$ inches, thickness, 1 $\frac{1}{2}$ inches. Net wt. 6 $\frac{1}{2}$ oz., packed $\frac{1}{2}$ lb.

Model CU-1 with 3 way plug...Price, \$16.25
Model CU-2 with 109-A plug...Price, 18.25

Copyright by U. C. P., Inc.

"15mm" SERIES



Ideal for all general P. A. Applications; recording, broadcasting and any place where a reliable instrument is required. Sensitive 15 millimeter, actuated elements. Modernistic, chrome plated body. De Luxe equipment included in handsome package. 25 ft. rubber covered cable with lock ring connector at housing. Suspension loop, Duvello cover, and "Flex-tube" (allows tilting of microphone and "stays put"). $\frac{5}{8}$ inch-27 thread stand coupling. Diameter 2 $\frac{1}{4}$ inches. Depth 2 $\frac{3}{8}$ inches. Weight 2 $\frac{1}{2}$ lbs.

DYNAMIC TYPE:—

A rugged, reliable unit. Not affected by temperature or humidity. Frequency response; 50-8000 CPS. Output level; 58 db. below one volt per bar.

Model	Impedance	Price
306	High	\$24.50
307	500 ohms	24.50
306	200 ohms	24.50
305	33 ohms	24.50

CRYSTAL TYPE:—

Clear, brilliant reproduction. Curvilinear diaphragm. Element protected against moisture and mechanical shock. Barometrically compensated. Frequency response; 50-8000 CPS. Output level; 48 db. below one volt per bar.

Model	Impedance	Price
312	High	\$24.50
311	500 ohms	27.50
310	200 ohms	27.50
309	33 ohms	27.50

"M4" SERIES VELOCITY TYPE



Scientifically developed, four-magnet Velocity unit. For general public address and semi-professional use Non-resonant. A best seller. Will greatly reduce feed-back in any installation. Frequency range, 40-10,000 CPS. Output level; 58 db below one volt per bar. Hum-bucking transformers. Available in four impedances. Equipped with tilting cradle. 25 foot cable and lock ring connector at housing. Black "crackle" finish with high polish chrome trim. Size; 2 inches x 3 $\frac{1}{2}$ inches x 5 $\frac{1}{2}$ inches. $\frac{5}{8}$ inch-27 thread stand coupling. Packed weight, 3 $\frac{1}{2}$ lbs.

Model	Impedance	Price
108	High	\$22.50
107	500 ohms	22.50
106	200 ohms	22.50
105	33 ohms	22.50

"AV" SERIES

Constant air-velocity. Super microphone. Ultra-refined unit. Wide range pick-up. Fidelity of tone unsurpassed. High flux magnets. Non-resonant. Will greatly reduce feed back in any installation. For all professional applications; recording, broadcasting studios, etc. Output level; 56 db below one volt per bar. Equipped with tilting cradle; 27 ft. rubber covered cable; $\frac{5}{8}$ inch-27 thread stand coupling. Beautifully finished in High Lighted Satin Chrome plate. Frequency response; 30-12000 CPS. Size; 2 $\frac{1}{2}$ inches x 3 $\frac{1}{4}$ inches x 5 $\frac{1}{2}$ inches high. Packed weight 3 $\frac{1}{2}$ pounds.

Model	Impedance	Price
958	High	\$44.50
957	500 ohms	44.50
956	200 ohms	44.50
955	33 ohms	44.50

Model "W"



Single button Carbon, high sensitivity, light weight, compact design. Ideal detetaphone, used on small transmitters, communicating systems; experimenters' favorite. Clear-cut response to all voice frequencies. (Output level, -38 db). Screw terminals. Impedance, 200 ohms. Black Bakelite Case. Diameter 1 $\frac{1}{2}$ inches; thickness $\frac{1}{2}$ inch. Weight 1 $\frac{1}{2}$ ozs. Packed 2 $\frac{1}{2}$ ounces.

Price, \$3.00

New Model "KO" CRYSTAL and "KD" DYNAMIC



- RECORDING
- AMATEURS
- PUBLIC ADDRESS
- ORCHESTRAS
- CARNIVALS
- CALL SYSTEMS
- New high output crystal and dynamic units with slightly rising frequency characteristics.
- Brilliant tone quality with well rounded bass response.
- Luxurious satin statuary bronze finished case contrasted with polished chrome face and grille.
- 10 foot low capacity, rubber covered cable included. Furnished in color to match microphone.
- Output level; 48 db below one volt per bar.
- Frequency range; 50-8000 CPS. $\frac{5}{8}$ inch-27 thread stand coupling. Diameter 2 $\frac{1}{4}$ inches, depth 2 $\frac{3}{8}$ inches. Weight packed; 1 $\frac{1}{4}$ pounds.
- Model "KO" Crystal or "KD" Dynamic Microphone including 10 foot cable as shown (less stand) \$16.25

Output level; 48 db below one volt per bar. Frequency range; 50-8000 CPS. $\frac{5}{8}$ inch-27 thread stand coupling. Diameter 2 $\frac{1}{4}$ inches, depth 2 $\frac{3}{8}$ inches. Weight packed; 1 $\frac{1}{4}$ pounds.

New Aircraft Type Hand Set



For aircraft, amateurs, mobile, pack transmitters and two way phone systems. May be used anywhere. Rugged, light weight construction. A low priced dependable instrument. Furnished in black Bakelite with six foot cord. Microphone and receiver terminated separately. Receivers available in two resistances; 75 ohms for matching line impedances, 2000 ohms for matching plate circuit of output tube. Switch not available. (See Heavy Duty Type.) Replaces older "FIMER" and "FIMEX" types. Weight only 7 ozs., packed, 1 lb.

Model	Microphone	Receiver	Price
875	S. B. Carbon 200 ohms -38db	Magnetic 75 ohms	\$10.00
820	S. B. Carbon 200 ohms -38db	Magnetic 2000 ohms	10.00

AR-1 SERIES

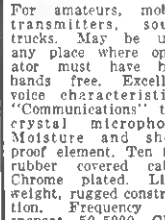
Aircraft Microphones Approved by U. S. Government Civil Aeronautics Authority

Approval Nos. 135 & 190 Single button carbon, anti-noise construction for private and commercial aircraft. Operates in any position, any climate and any place a lightweight rugged unit is required. Rising "communications" characteristic. Button impedance 200 ohms. Output approx. 30 volts RMS across microphone transformer secondary. Heavy duty, press to talk, double pole, single throw switch; connects microphone and relay circuit simultaneously. Moisture proof, four foot cord; reinforced six inches from each end. Body diameter, 1 $\frac{1}{2}$ inches. Thickness 1 $\frac{1}{4}$ inches. With positive grip roller bracket. All metal Dural body finished in Ivory Black Dielectric. Complete with 109-A plug. Microphone weighs 4 oz., packed 1 lb.

See last page for Transformer

Model AR-1S. For closed cabin craft. Maximum sensitivity. Anti-Noise. C.A.A. Approval No. 187.	Price, \$35.00
Model AR-1M. For moderately quiet cabin craft. Medium sensitivity. Anti-Noise. C.A.A. Approval No. 186	Price, \$35.00
Model AR-1D. For open cockpit and combat aircraft. Extra damped. Anti-Noise. Non-Commercial application	Price, \$35.00

"1941 AMATEUR'S CHEST MIKE"



For amateurs, mobile transmitters, sound trucks. May be used any place where operator must have both hands free. Excellent voice characteristics. "Communications" type crystal microphone. Moisture and shock proof element. Ten foot rubber covered cable. Chrome plated. Light weight, rugged construction. Frequency response; 50-5000 CPS. Output; 48 db below one volt per bar. Weight only 7 oz., packed 1 $\frac{1}{4}$ pounds.

Model N-3 PRICE \$19.50

UNIVERSAL Microphones

HANDI-MIKES



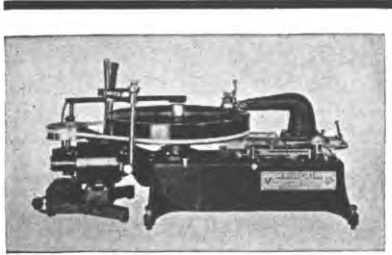
An unbeatable value in the field of portable sound equipment. For use in sports events, call systems, small transmitters, sound trucks and all spots where a close-talking clear reproduction unit is required. Balanced-grip. Polished chrome plate. Overall length 8 in. Diameter of head 2 1/4 in. Snap switch and "A" circuit standard, as illustrated, with 6 ft. flexible cord. Packed weight 1 1/4 lbs.

Model	Unit	Impedance	Output	Price*
200-A	S. B. Car.	200 ohms	-38 db	\$10.00
201-A	D. B. Car.	200/B Ohms	-55 db	15.00
202-A	Crystal	High	53 db*	18.50
203-A	Crystal	High	48 db*	22.50
216-A	Crystal	500 ohms	-59 db	24.50
215-A	Crystal	200 ohms	-59 db	24.50
214-A	Crystal	33 ohms	-59 db	24.50
212-A	Dynamic	High	58 db*	24.50
211-A	Dynamic	500 ohms	-64 db	24.50
210-A	Dynamic	200 ohms	-64 db	24.50
204-A	Dynamic	33 ohms	-64 db	22.50

POLICE TYPE HANDI-MIKE

MODEL PCT

Special single button carbon unit. Designed particularly for police transmitter work. Motor frequencies damped out. Ventilated rubber mouthpiece for close talking "Press-to-talk" switch for relay operation. 6 foot weather-proof cable. Shield used as common ground. Price \$18.50*



Universal Professional Recorder

A Reliable "Rock Solid" Recording Machine Built for Long and Continued Service

Adjustable mounting feet. Chassis of cast iron. 16-inch turntable weighing 110 lbs. ● Endless, non-elastic, gum-dipped linen belt insures smooth running without wavers* or "wows." ● Self-starting motor, guaranteed 100 per cent synchronous. ● Lead Screw has clutch mechanism which enables operator to "start" lead screw riding shoe, or release it instantly for moving slide to any new position. Safety grooves at each end prevent "jamming" or damage to mechanism. ● Slide bar rolls on frictionless, hardened ball-bearing grooves, in renewable rails.

Dimensions over all: 36" x 19" x 14". Net wt. 225 lbs. Boxed for shipping (two boxes) 3/3 and 5/4 cu. ft., gross wt. 300 lbs. Complete with 15 ohm full frequency cutting head and standard high quality crystal pickup, ready to connect to amplifier and associate equipment. Price.....\$585.00 (Packing and Boxing \$5.00 Net additional)

UNI-CORD

Non-Inflammable
Acetate Coated
Cardboard Blanks

Flexible, easy cutting, long wearing, economical. Made especially for home and school recording.

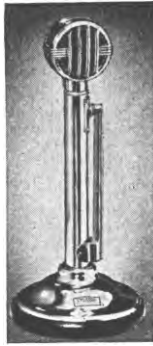


6 1/2"	Double-faced.	Carton of 8.....	Price \$1.00
8"	Double-faced.	Carton of 3.....	Price 1.00
10"	Double-faced.	Carton of 2.....	Price 1.00
12"	Double-faced.	Carton of 2.....	Price 1.25

*Below one volt per bar.

GRASP-TO-TALK DESK MODELS

For all communication systems, police departments, ship-to-shore, and portable sound equipment. Several types of microphone units available. Grasp-to-talk switch turns microphone "on and off." Other circuits on order. Polished chrome plating. Height overall 11 inches. Rubber non-skid base. Six foot cable. Weight 2 1/4 lbs., packed 4 1/2 lbs.



Model	Unit	Impedance	Output	Price*
509-A	S. B. Carbon	200 Ohms	-38 DB	\$18.50
510-A	D. B. Carbon	200/B Ohms	-55 DB	23.00
511-A	Crystal	High	48 DB*	27.50
514-A	Crystal	500 Ohms	-59 DB	27.50
513-A	Crystal	200 Ohms	-59 DB	27.50
512-A	Crystal	33 Ohms	-59 DB	27.50
518-A	Dynamic	High	58 DB*	27.50
517-A	Dynamic	500 Ohms	-64 DB	27.50
516-A	Dynamic	200 Ohms	-64 DB	27.50
515-A	Dynamic	33 Ohms	-64 DB	25.50

PRESS-TO-TALK DESK MODELS

Same as Grasp-to-talk model except non-locking, press-to-talk switch turns microphone on. Other circuits available. Write for bulletin.

Model	Unit	Impedance	Output	Price*
600-A	S. B. Carbon	200 Ohms	-38 DB	\$17.50
601-A	D. B. Carbon	200/B Ohms	-55 DB	22.50
602-A	Crystal	High	48 DB*	26.50
605-A	Crystal	500 Ohms	-59 DB	26.50
604-A	Crystal	200 Ohms	-59 DB	26.50
603-A	Crystal	33 Ohms	-59 DB	26.50
609-A	Dynamic	High	58 DB	26.50
608-A	Dynamic	500 Ohms	-64 DB	26.50
607-A	Dynamic	200 Ohms	-64 DB	26.50
606-A	Dynamic	33 Ohms	-64 DB	24.50

Press-to-Talk Heavy Duty Hand Set



Double pole press-to-talk switch

Use on yachts, pack travelers, two-way talk back systems; any commercial application. Thick walled Bakelite construction. Polished metal rings make for modernistic appearance and sturdy construction. "Communications" type microphone characteristic. "Super-flux" magnetic type earphone unit, using new magnetic principle. Available in two resistances; 75 ohms for matching line impedances, 2000 ohms for matching plate circuit of output tube. "Tropic" sealed. Separate wires to switch. Six foot flexible cord. Weight packed, 1 1/4 lbs.

Model	Microphone	Receiver	Price*
175-E	S. B. Carbon	Magnetic	
	200 ohms -38db	75 ohm	\$14.50
120-E	S. B. Carbon	Magnetic	14.50
	200 ohms -38db	2000 ohm	
275-E	Crystal	Magnetic	
	HI-Imp. 48 db*	75 ohm	28.50
220-E	Crystal	Magnetic	
	HI-Imp. 48 db*	2000 ohm	28.50
375-E	Dynamic	Magnetic	
	33 ohms -64 db	75 ohm	28.50
320-E	Dynamic	Magnetic	
	33 ohms -64 db	2000 ohm	28.50

Carbon Microphones

Model "XX" DOUBLE BUTTON



Small heavy duty, double button carbon microphone. World's favorite carbon microphone. For use in sports events, concessions, amateur stations. Low hiss granules. Stretched Duralumin diaphragm. Frequency range: 40-6000 CPS. Impedance range: 40-2000 Ohms. Polished chrome finish. Diameter: 2 1/2 inches, overall thickness 1 1/4 inches. Weight 8 ozs., packed 1 lb. PRICE \$10.00*

Model X-1

SINGLE BUTTON

Same characteristics and size as XX except single button construction. PRICE \$7.50*



PRECISION CUTTING HEAD

Scientific design. Capable of cutting any type of record material. Maximum field generated by HI-Flux ALNICO permanent magnet. Designed for long and dependable service with maximum sensitivity within audio frequency range. Frequency response 70 to 6200 cycles per second. Furnished in 15 ohm imp. only. Will operate where average loudspeaker voice coil has been attached. Finish black "crackled" baked enamel. Size 1 1/2" high, 1" wide, 5/8" thick. Net wt. 4 oz. Complete with set of instructions. Price \$22.50



New Universal Full Frequency Cutting Head

Perfect electrical balance! Magnetic balance! Mechanical balance! Gives crisp, clean, clear recordings with brilliant HIGHS and full rounded BASS! Records frequencies from 30 to 10,000 cycles and over. Electrical circuit designed to be fed direct from 15-ohm power source. Operates in any climate, unaffected by heat, cold or humidity - tropic sealed! All precision metal construction. All adjustments locked and sealed. Gives uniform performance every day for years! Price, \$90.00



Reference zero, six milliwatts with 10 bar signal, unless otherwise indicated.

RECORDING TURNTABLES

Ideal assemblies for the radio amateur, recording experimenter, public address man, schools and classes who wish to build or assemble their own system. Small and compact, but ultra-efficient Recording chassis for easy mounting and simple hook-up to any amplifier or radio permitting at minimum investment clear and clean full volume recordings. Cutting head extra sensitive, wide range Magnetic Unit of 15 ohms. Requires 2 watts to handle. Impedance for cutting heads match speaker voice coil circuits, eliminating necessity of purchasing special transformers, etc. Lead screw cuts out to in—118 lines cuts up to 100" blanks. Constant Speed Induction Type Motor (not synchronous) of more than ample power to drive the weighted turntable to standard speed of 78 R.P.M.—Self-starting, quiet, powerful. Weight at center collects threads at same time holding blank in position and operates as Stop and lifter for cutting head at end of cut. This feature alone worth many dollars to any owner.

Mounted on leatherette-covered veneered top-board, 11" x 14" wide. Net wt. 12 1/2 lbs. Packed wt. 18 lbs.
Model PB-60—For 60 cy., 110 volt.... Price \$39.50
Model PB-50—For 50 cy., 110 volt.... Price 39.50
Model PB-25—For 25 cy., 110 volt.... Price 39.50

SYNCHRONOUS PLAYBACK AND TURNTABLE ASSEMBLY

100% synchronous condenser start and run motor operates turntable at both 78 and 33 1/3 R.P.M. The ball planetary change speed device is shifted by lever for transcription speed and for phonograph speed. Reproduces music in true pitch and fidelity, absolutely without "wows" or "waver". Turntable 12" diameter with brown flock finish. Aluminum mounting plate 5 1/2" x 10". Total weight 12 1/2 lbs. Packed, 17 lbs.
Model No. 81—For 60 cy., 110 volt.... Price \$81.00
Model No. 91—For 50 cy., 110 volt.... Price 91.00
Model No. 95—For 25 cy., 110 volt.... Price 95.00

VELOCITY

AMPERITE

MICROPHONES

PREFERRED BY LEADING P. A. MEN THE WORLD OVER



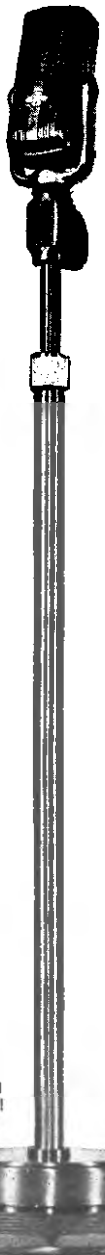
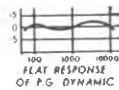
•UNI-DIRECTIONAL

NEW SUPERIOR ELIPSOID PICKUP PATTERN

•ELIMINATES FEEDBACK

TROUBLE BECAUSE IT HAS LOWEST FEED BACK POINT OF ALL DIAPHRAGM TYPE MICROPHONES

•FLAT RESPONSE. FREE FROM ANNOYING PEAKS, GIVING STUDIO QUALITY REPRODUCTION



The P.G. diaphragm follows air particle velocity where amplitude is a GRADIENT of the PRESSURE. In ordinary dynamics amplitude is restricted from following air particle velocity. The P.G. DYNAMIC is a radical improvement in this type of microphone. You can actually hear the difference. Case is designed according to modern acoustic principles. Rugged, not affected by temperature, altitude or humidity. Has unusually high output.

Model PGH —hi-imp.	} \$32.00
Model PGL —50 ohms		List
Output	—55 db
Freq. Resp.	40-10000 CPS
Cable Length	25 ft.
Finish	Chrome
Switch	Yes
Cable Connector	Yes
Stand Thread	5/8-27
Ship. Wt.	2 1/2 lbs.



PLASTIC BAFFLE FOR P.G. DYNAMIC
Increases output of the microphone 4 db. Especially useful when performer is at distance of 12" or more. Excellent for picking up entire stage, bands, etc. Snaps into place.
Model PG.....List \$1.50

Model PGAH —hi-imp.	} \$25.00
Model PGAL —50 ohms		List
Output	—60 db
Freq. Resp.	70-8000 CPS
Cable Length	12 ft.
Finish	Chrome
Switch	Yes
Cable Connector	Yes
Stand Thread	5/8-27
Ship. Wt.	2 1/2 lbs.

AMPERITE MICROPHONE STANDS

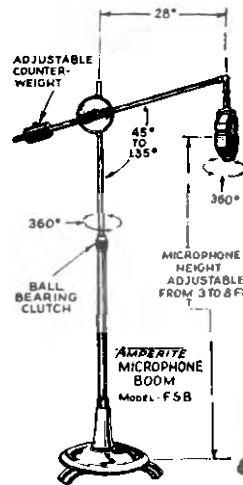
Scientifically designed, Amperite stands feature:

1. Positive, non-sliding clutch. Will never wear out. never require adjustment. Will not "creep".
2. Shock-absorbing rubber bottom.

The microphone can be rotated without loosening clutch. The action up and down is smooth, pneumatic-like.

AMPERITE MICROPHONE STANDS—SPECIFICATIONS

Model	Description	Base Wt.	Base Spread	Height Range	Thread	List Gummetal or Chrome	Ship. Wt.
FS-8M	Floor Stand	14 lb.	12"	37"-55"	1/2-27"	\$14.00	15 lb.
FS-25M	Studio 3-legged Floor Stand	16 lb.	17"	42"-69"	1/2" pipe	26.00	25 lb.
DS-M	Comb. desk & Banquet	6 lb.	7 1/2"	16"-24"	5/8-27"	10.00	11 lb.
DS	Desk only	6 lb.	7 1/2"	3"	5/8-27" & 1/2" P.	5.00	11 lb.
5B	Desk Stand	1 1/2 lb.	5"	6"	5/8-27"	3.50	3 lb.
FSB	Boom	21 lb.	17"	36"-96"	1/2" pipe	50.00	43 lb.



PREFERRED BY LEADING P. A. MEN THE WORLD OVER



New Studio Model SR80n, Output 56 db.

On the basis of all-around tests, Model SR80n has achieved an outstanding record. Now accepted as the best for studio, P.A., and recording. Frequency range 40 to 15,000 cps. Output, —56 db. Triple shielded, fitted with switch (optional) cable connector, and 25' of cable.

Model List
 SR-80Hn hi-imp. . . \$80.00
 SR-80n 200 ohms* 80.00
 Chrome or gunmetal finish.
 Call Letter Plate . . \$7.00
 *Other impedances obtainable at no extra cost.

A Very Popular, Very Excellent VELOCITY-RAH



Answering the demand for a high quality velocity microphone at a competitive price, Amperite presents models RAH-RAL. Excellent for both speech and music. Eliminates feedback. Has a frequency range of 60 to 7500 cps. Output, —68 db. Unaffected by temperature or humidity. Unusually rugged. Triple shielded, and fitted with heavy shock absorber. Shipping weight 5 lbs.

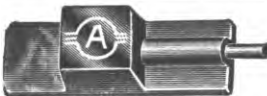
Model
 RAH hi-imp. 12' cable
 RAL 200 ohms 8' cable
 Either Model, Chrome or Gunmetal. List \$22.00

New Amperite-ACH Compact Velocity

The smallest complete velocity ever made. Complete with output transformer, cable connector and switch. Has the output of a large velocity —70 db open line. Frequency response 60 to 7500 cps. ± 2 db. Can be used for speech or music. Fits standard 5/8"-27 stand. Can also be used as a hand microphone—has comfortable pistol grip.

Size of Head: 1 1/2" x 2 3/8" x 1 3/8".
 Net weight 1 lb.

Model List
 ACH—25' cable \$25.00



Kontak Mike

For Musical Instruments Can Be Attached To Most Radio Sets

Gives natural reinforcement without peaks. Easily attached without tools. Will operate with either low or high-gain amplifiers. Frequency response 40 to 9000 cps. Output, —40 db. Shipping Weight 2 lbs.

Model List
 SKH Hi-imp. \$12.00
 KTH DeLuxe Hi-imp. 22.00
 KKH With Hand Volume Control . . . 18.00
 KF Foot Pedal Only 12.00
 BT Boosting Transformer for radio sets 3.00
 Low impedance available in models SKH and KTH at same price.

THE AMPERITE VELOCITY

Distinguished in Design and Quality offers an exclusive feature in THE ACOUSTIC COMPENSATOR

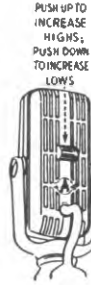
Models RBHk-RBMk

Considered the finest types of microphone available for P. A. work, these models are excellent for close talking and distant pickup, speech, music, or wherever else a high-quality microphone is required. Frequency range 40 to 11,000 cps. Output, —65 db. Excellent also for studio or recording. Complete with switch, cable connector and 25' of cable.

The Acoustic Compensator permits the increase of the high frequencies by the mere flip of the finger. Simple construction. As shown in diagram, simply push the knob up to increase high frequencies, or down to increase lows. Makes microphone adjustable for close talking or distant pickup.

Models RBHk-RBMk, with acoustic compensator. Frequency range 40 to 11,000 cps. Output, —65 db. Complete with switch, cable connector and 25' of cable. Chrome or Gunmetal. List \$42.00

Same as above, except without acoustic compensator Chrome or Gunmetal
 Model RBHn High impedance List \$42.00
 Model RBMn 200 ohms List 42.00



Models RBBHn-RBBn

For unusual feedback conditions such as footlight installations. Not to be used for close talking. Frequency range 40 to 11,000 cps. Complete with switch, cable connector and 25' of cable.

Model RBBHn High impedance Chrome or Gunmetal List \$42.00
Model RBBn 200 ohms List 42.00

AMPERITE MICROPHONES ARE TRIPLE SHIELDED against all RF or magnetic fields, entirely eliminating hum pickup. They are acoustically designed to eliminate any possibility of cavity resonance.

FINISHES: All microphones have the new standard gunmetal finish. Also available at no extra charge in long-lasting chrome finish.

NOTE: Special custom microphones, such as microphones with increased low or high frequencies, or special impedances, obtainable at no extra charge.

Additional CABLE LENGTHS obtainable at 8c list per foot.

New RSHk-RBSk

With Acoustic Compensator



Similar in appearance to RBHk. Has slightly less output and frequency range. For speech or music. ACOUSTIC COMPENSATOR permits adjustment for close or distant pickup or for various conditions encountered. Complete with switch and cable connector. Output —68 db. Frequency range 60 to 8000 cps. 12 ft. of cable.

Chrome or gunmetal
 Model RSHk high-imp. List \$32.00
 Model RBSk 200 ohms List 32.00

Obtainable without Acoustic Compensator at same price.

Amperite-7JH Velocity Mike

"Lapel"



The most successful "lapel" made. Size of match box. Ideal for lectures and specialty acts. Can be hidden under coat. Output constant with any position of the head. Transformer included in microphone case. Flat response 60 to 7500 cps. Output, —70db. Shipping weight 3 lbs.

Model 7J-H Hi-imp. List \$22.00
 Model 7J 200 ohms 22.00

Input Transformer (Cable Type) LGP

Enables the use of low impedance microphones and cable lengths up to 5000 ft. with amplifiers having high impedance input. Hum trouble entirely eliminated. Can be used with 25, 50, or 200-ohm microphones. Output connects directly to high imp. input of amplifier. Standard grade recommended for speech; laboratory grade for music. 2' cable. Shipping Wt. 3 lbs.



Model List
 LGP (Standard) 60-8000 cps. \$ 6.00
 LGP (Lab.) 40-14,000 cps. 10.00

NEW! IMPROVED! "The Mike-Stand of Tomorrow"

A one-piece hollow base of die-cast metal, zinc, aluminum and copper, which is the equal of cast iron in durability, now replaces the cast iron metal shell combination . . . thereby offering the following advantages:

- Elimination of dented and disfigured shells which detract from the appearance of the stand.
- Elimination of metallic vibration caused by misfit shells over iron castings.
- Base weight can be increased, depending on materials used.

The heavy gauge brass tubing section also has original features developed by Eastern:

- Variable pressure chuck-lock.
- Noiseless pump action adjustment.
- Non-dropping mike rod.

Base diameter is 10 inches. Adjustment 36" to 67". $\frac{5}{8}$ " — 27 thread.

Now supplied with a rubber ring around the edge of the base acting both as a base guard as well as a shock absorber. Available in the following weights and finishes:

HOLLOW BASES

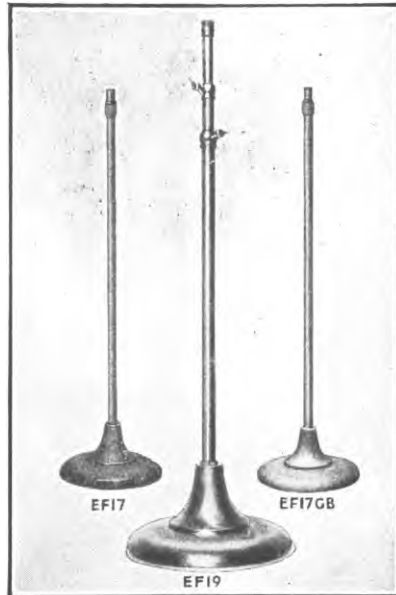
Two Section

EF153—Has hollow base described above combined with "EASTERN" pump action tubing. Appearance is that of our popular EF17 but has a net weight of 6 lbs. Ideal for use with the new streamline microphones but can be weighted for heavier microphones. Interior of base will hold four pounds of sand. Height 36" to 67". $\frac{5}{8}$ "-27 thread. All chromium finish.
List Price\$9.50

Three Section

EF155—Combines hollow base with new "BRAKE-LOCK" 3 section telescopic tubing which replaces thumbscrews used heretofore. Has threads for $\frac{1}{2}$ "-pipe and $\frac{5}{8}$ "-27. Height 25" to 60". Net weight 6 lbs.
List Price\$10.50

Either of above stands can be supplied filled with sand to make a full weight 10 lb. floor stand at \$1.00 additional list price. Specify EF157 for two section stand at \$10.50 list and EF158 for three section stand at List Price.....\$11.50



CAST IRON BASES

For those who want the stands equipped with cast iron bases, same are available as follows:

Two Section

EF17 — All chromium two section floor stand with no rust copper shell over base casting. With "EASTERN" pump action section. Height is 36" to 67". Three rubber feet. Net weight 10 lbs. $\frac{5}{8}$ "-27 thread.
List Price\$8.50

EF33—Same characteristics as EF17 but has a net weight of 17 lbs. for heavy microphones. Six rubber feet. All chromium finish.
List Price\$11.00

Three Section

EF19—All chromium 3 section stand with copper shell over iron casting. Has new "BRAKE-LOCK" telescopic tubing which replaces thumbscrews formerly used. Has threads for $\frac{1}{2}$ "-pipe and $\frac{5}{8}$ "-27. Height 25" to 60". 3 rubber feet. Net weight 10 lbs.
List Price\$9.50

EF34—Same characteristics as EF19 but with heavier base giving net weight of 16 lbs. All chromium finish.
List Price\$12.00

THREE-LEGGED STANDS

SOLID TRIPOD



EF-55
EF-111

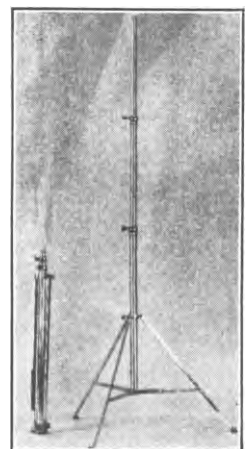
EF55—Has three legged cast iron base with 15" spread. Overall height of stand, 37" to 66". The base is smoothly ground to make an all chromium stand. Fitted with rubber feet. Net weight 12 lbs. Pump action tubing section has $\frac{5}{8}$ "-27 thread. List.....\$13.75

EF111—Three legged stand similar to above but base is finished in grey wrinkle and pump action tubing in chromium. Height 37" to 66". $\frac{5}{8}$ "-27 thread. Net weight 12 lbs. List\$9.50

FOLDING TRIPOD

EF73—A three section music type folding stand made of heavy material especially for microphone use. 26" to 60" height. 20" base spread. Folds to 21". $\frac{5}{8}$ "-27 thread. Rubber feet. Net weight 3 $\frac{3}{4}$ lbs. All chromium finish only. New "BRAKE-LOCK" tubing.
List\$11.00

EF74—A four section music type folding stand similar to above but with fourth section added, giving adjustable height from 27" to 73". Folds to 22". Supplied with fitting for $\frac{5}{8}$ "-27 thread. Rubber feet. Net weight 4 lbs. All chromium finish. Thumbscrew tubing. List\$12.50

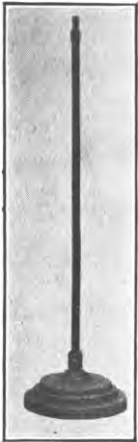


EF-73
EF-74

EASTERN

MICROPHONE STANDS

MODERNISTIC FLOOR STANDS



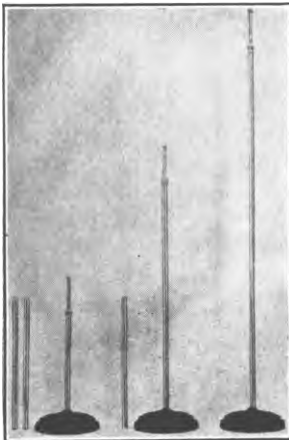
EF-139
EF-140

EF139—Beautifully proportioned 12" cast iron base in grey wrinkle finish combined with "Eastern" pump-action tubing in chromium. Has six rubber feet. Height 37" to 65". $\frac{5}{8}$ "-27 thread. Net weight 16 lbs. List.....\$10.00

EF140—A heavy type of floor stand for use with large velocity microphones. Has a chrome plated tubing section of larger diameter than that used on stand above. Base in grey wrinkle finish. Height 37" to 65". Fittings for $\frac{5}{8}$ "-27 and $\frac{1}{2}$ " pipe thread. Net weight 24 lbs. List\$15.00

LIGHT-WEIGHT STANDS

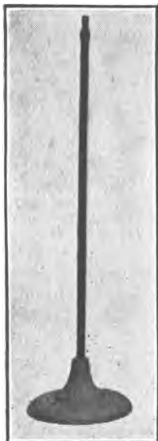
FOR PACKAGE SOUND AND RECORDING SYSTEMS



EF144—Consists of two 14" sections and one adjustable section which screw into each other for desired height. Adjustable section only forms a banquet stand of 17" to 23". With one 14" section added adjustment is 32" to 42", correct for a seated person. Adding the second 14" section forms a full size floor stand adjustable from 47" to 58". The 9" base, of neat modernistic design, is 3" tall, making the stand ideal for case systems. Base is in grey wrinkle with chromium tubing. Net weight 8 lbs. List.....\$10.00

EF94—Has same base as EF144 but with new "BRAKE-LOCK" telescopic 3 section tubing. Sections are non-removable and has a height of 25" to 60". Black wrinkle base with chromium tubing. Has $\frac{1}{8}$ "-pipe and $\frac{5}{8}$ "-27 threads. Net weight 7 lbs. List Price.....\$6.75

EF92—Our lightest and lowest price two section floor stand with 9" modernistic base in black wrinkle and Chromium upright. Height 35" to 64". $\frac{5}{8}$ "-27 thread. Net weight 8 lbs. List Price\$6.00

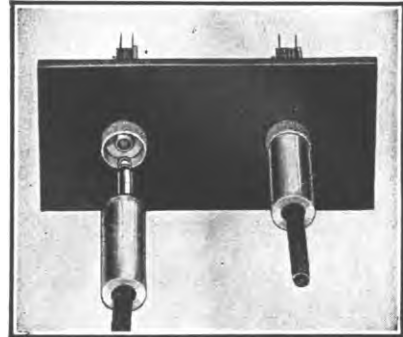


ROUND BASE FLOOR STAND

EF141—A two section floor stand with 10" cast iron base in grey wrinkle combined with "Eastern" pump-action chromium tubing. Height 36" to 67". Three rubber feet in base. $\frac{5}{8}$ "-27 thread. Net weight 10 lbs. Good value at this price! List\$7.25

EF148—Above base with "BRAKE-LOCK" 3 section telescopic tubing. Base is in grey wrinkle with tubing in chromium. Height 25" to 60". Has $\frac{1}{8}$ "-pipe and $\frac{5}{8}$ "-27 threads. Net weight 9 lbs. List Price \$8.75

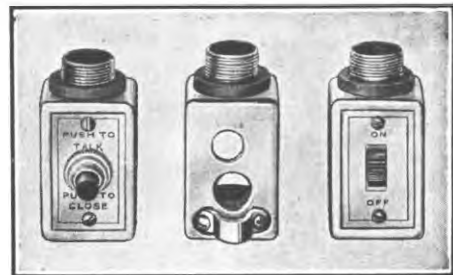
NEW! Locking Type, Shielded TELEPHONE PLUG



Another original "Eastern" development. A phone plug which cannot be accidentally removed from its jack. Fountain pen thread requires single turn to hold plug firmly locked. Strain relief positively eliminates ripping of cord from plug terminals. Twisting or tugging at cord will positively not harm plug connections. Plug floats loosely in shell when removed from panel. Supplied with panel receptacle which replaces hex nut of present jack. Nickel plated finish. Prices include panel receptacle.

PP84—2 Terminal Plug. List.....\$2.50
PP85—3 Terminal Plug for 3 contact microphones. List.....2.75

MICROPHONE SWITCHES



Type PS

Type SS

New die-cast case with slide contact or push to talk switch. Equipped with cable strap for strain relief. Has knocked out hole for mike wire. Terminals insulated from case. Chromium finish.

Slide Type	Push Type	Mike Thread	List
No. 304SS	No. 304PS	$\frac{5}{8}$ "-27	\$1.75
No. 305SS	No. 305PS	$\frac{1}{2}$ " pipe	2.50
No. 306SS	No. 306PS	$\frac{3}{8}$ " pipe	2.25

MICROPHONE SHOCK ABSORBERS



401



405

Improve performance of microphone by absorbing noises which may be picked up by over sensitive microphones, thereby permitting increase of gain.

Cat. No.	Mike Thread	Stand Thread	List
405	$\frac{5}{8}$ "-27	$\frac{5}{8}$ "-27	\$2.50
401	$\frac{1}{2}$ " pipe	$\frac{1}{2}$ " pipe	3.50
402	$\frac{1}{2}$ " pipe	$\frac{5}{8}$ "-27	3.00

EASTERN

MICROPHONE STANDS

TABLE STANDS — 5 1/2" BASES Deluxe Type — All Chromium — 3 Felt Feet in Base



ED140



ED130



ED53



ED51L
ED149



ED5D

List Price
ED140—Adjustable height 9"-18". Swivel has threads for 1/4" pipe and 5/8"-27 \$4.75
ED130—Height 4". 5/8"-27 thread 2.75
ED53—Desk stand kit for carbon microphone. Combination of four stands in one unit. Tall desk stand. Short desk stand. Suspension ring and carrying handle. 6.50

List Price
ED51L—Height 6 3/4". 5/8"-27 thread \$3.00
ED149—Height 8 1/2"; otherwise same as ED51L; 5/8"-27 thread 3.00
ED5D—Height 10 3/4". Swivel has threads for 1/4" pipe and 5/8"-27 4.00

Economy Type — Grey Wrinkle Bases with Chromium Tubing 3 Felt Feet in Base



ED127



ED101



ED129



ED126



ED125

List Price
ED127—Height 8 1/2". 5/8"-27 thread \$2.00
ED101—Height 6 3/4". 5/8"-27 thread 2.00
ED129—Height 3 1/4". 5/8"-27 thread 1.75

List Price
ED126—Adjustable height 8"-12". Fitting for 5/8"-27 thread \$2.75
ED125—10 3/4" height. Swivel has threads for 1/4" pipe and 5/8"-27 3.00

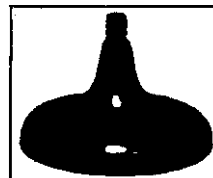
HEAVY TABLE STANDS — 7 1/2" BASES Chromium or Gun Metal Finish 3 Rubber Feet in Base



EB4-EB41



ED23R



ED131



ED21

List Price
EB4—Banquet stand. Height 16"-25". Fitting for 5/8"-27 thread. Net weight 6 lbs. \$6.50
EB41—Same as EB4 but with grey base 5.50
ED23R—Height 8". Fitting for 5/8"-27 thread. Net weight 5 3/4 lbs. 5.00
ED23P—For 1/2" pipe thread 5.00

List Price
ED131—Height 4 1/2". 5/8"-27 thread. Net weight 5 1/2 lbs. \$4.75
ED131P—For 1/2" pipe thread 4.75
ED21—Short banquet stand. Height 8 1/2"-12". 5/8"-27 thread. Net weight 5 3/4 lbs. 5.75
ED21P—With fitting for 1/2" pipe thread 6.00

EASTERN

MICROPHONE STANDS



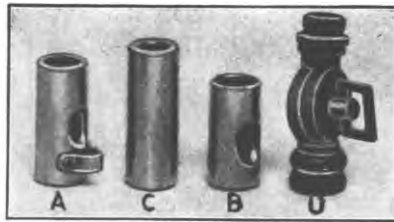
F



P



R



A

C

B

U



D



S

REDUCERS

Cat. No.	Mike Thread	Stand Thread	Figure	List
101	1/8" Pipe	5/8"-27	F	\$0.75
102	1/8" Pipe	1/2"-27	F	.75
107	1/2" Pipe	5/8"-27	P	1.00
108	1/2" Pipe	1/2"-27	P	1.00
161	1/2" Pipe	1/8" Pipe	P	1.00
145	1/2" Pipe	3/4"-27	P	1.00

Cat. No.	Mike Thread	Stand Thread	Figure	List
109	5/8"-27	1/2"-27	R	\$0.75
112	5/8"-27	3/4" Pipe	R	1.00
132	5/8"-27	3/4"-27	R	1.00
*113	1/4"-20	5/8"-27	T	.75
115	See No. 118			B
118	WE630A, 633A, 639A	5/8"-27	A	1.50

* NOTE: No. 113 can also be used with CAMERAS.

SWIVELS

103	1/8" Pipe	5/8"-27	D	\$1.00
104	1/8" Pipe	1/2"-27	D	1.00
162	1/8" Pipe & 5/8"-27	1/8" Pipe	D	1.00

110	5/8"-27	5/8"-27	S	1.00
111	5/8"-27	1/2"-27	S	1.00
117	5/8"-27	5/8"-27	U	3.75



EG

CABLE GUIDES

No.	List
EG24—For 7/8" Tube	\$1.50
EG25—For 3/4" Tube	1.50
EG27—For 5/8" Tube (Cable Grip)	1.25

ACCESSORIES



420

No.	List
414 — 6 1/2" Chrome Mike Ring, 5/8"-27 threads	\$2.00
ER6—Suspension Ring	2.50
420 — Side Hole Bracket, 5/8"-27 threads	.75



ER6



FLEXIBLE GOOSE NECKS

Flexible goose necks 5/8"-27 threads on each end.
 No. List
 FL83—12" length for floor stands.....\$2.00
 FL84—7" length for desk stands.....1.50

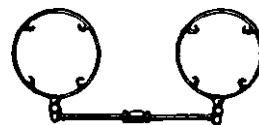


BA 78

BOOM ARMS FOR LIGHT MIKES

No. List
 BA78—Non-adjustable. Extends 30" horizontally. 5/8"-27 threads. Chrome plated.....\$8.50
 BA79—Similar to above but can be adjusted to any angle within 90 degrees of horizontal position.....12.00

For other threads see list of fittings above.



DAC

DOUBLE ARMS

No. List
 DAC—Double Arm 6 1/2" Rings.....\$12.50
 DA5—Above with 5/8"-27 Threads.....9.00
 DA1/2—Above with 1/2" Pipe Threads.....12.50

EASTERN "NECK SUSPENSION"

NEW!



Here is the "THIRD HAND" you have been asking for. Made from die-cast metal and supplied with a 7" flexible goose-neck. An integral part of the casting is a call letter plate which is suitable for station or chain affiliation (letter in your own call letters). Has a neck strap which is held by snap fasteners and a body strap which prevents shifting of

microphone when leaning forward. Straps are extra large. Finished in beautiful black wrinkle.

Catalog No. ES160 List Price \$3.50

NOTE: Mountings available for Western Electric Type 618 microphones. For W.E. 630A, 633A and 639A microphones to Eastern stands, see fitting No. 118 listed above.

SHURE

CARDIOID MICROPHONES

Stop Feedback * Permit More Volume * Increase Pickup Range * Reduce Reverberation Effects
Improve Reproduction * Simplify Installations

Shure True Uni-Directional Cardioid Microphones are effectively solving troublesome sound problems in Broadcasting, Recording, and Public Address. They improve existing installations and simplify new set-ups in studios, theatres, night clubs, auditoriums, schools, churches, and hundreds of other acoustically difficult locations indoors and outdoors.

"UNIPLEX" CARDIOID CRYSTAL

True Uni-Directional Performance—at Low Cost!

It's "Goodbye Feedback" when you install this famous Shure "Uniplex"—the lowest priced true cardioid microphone. High quality reproduction from 30 to 10,000 cycles over a wide angle at the front, yet practically unaffected by sound approaching from the rear. (Rear response down approximately 15 db.) Permits more volume without feedback—simplifies microphone placement—greatly improves systems using ordinary microphones—makes possible a good P.A. installation where poor acoustic conditions did not permit it before. Uses exclusive Shure "Uniphase" principle. Output level: 63 db below 1 volt per bar. Specially moisture-proofed Grafoil Bimorph Crystal. "Swivel-head." Distinctively modern, streamlined case design, finished in Satin Chrome. Built-in cable connector. Standard $\frac{5}{8}$ "-27 thread. Diameter $3\frac{1}{8}$ ", depth $3\frac{3}{8}$ ". Shipping weight $7\frac{1}{2}$ lbs. (Shure Pat. 2,198,424)

Model 730A. "UNIPLEX" Cardioid Crystal Microphone. Complete with 25 ft. super shielded cable. Code: **Rupel.**
List Price..... **\$32.50**

"UNIDYNE" CARDIOID DYNAMIC

Today's Most Popular True Uni-Directional Microphone

Solves feedback, reverberation, background noise. Specially suspended double wind-screened moving-coil system. Employs exclusive Shure "Uniphase" principle. Smooth response from 40 to 10,000 cycles. Wide angle pick-up at front, dead at rear (down 12-15 db). Rugged, shock-proof construction. Practically unaffected by heat and humidity. Ideal for severe outdoor and indoor service. Head tilts through 90 degree angle. Built-in cable connector. Satin Chrome finish. Permissible cable length practically unlimited on low impedance models. Standard $\frac{5}{8}$ "-27 thread. Case dimensions: $4\frac{1}{4}$ " high; $3\frac{1}{4}$ " wide, $3\frac{1}{2}$ " deep. Shipping weight $4\frac{1}{4}$ lbs.

Model 55A. Low impedance. For 35-50 ohm circuits. 25 ft. two-conductor shielded cable. Output level into 50 ohms: 62.8 db below 6 milliwatts for 10 bar signal.
Code: **Rudar.**
List Price..... **\$42.50**

Model 55B. Low impedance. For 200-250 ohm circuits. Includes internal transformer. 25 ft. two-conductor shielded cable. Output level into 250 ohms: 63.8 db below 6 milliwatts for 10 bar signal. Code: **Rudat.**
List Price..... **\$45.00**

Model 55C. High impedance. May be used with any crystal microphone amplifier or other amplifier with input impedance of 100,000 ohms or more. Includes internal transformer. 25 foot single conductor shielded cable. Output level: 55.5 db below 1 volt per bar.
Code: **Rudas.**
List Price..... **\$45.00**

Model A86A. High Quality Cable-Type Transformer to match 35-50 and 200-250 ohm microphones to high impedance amplifier input. Code: **Rudeb.**
List Price..... **\$10.00**

"555" BROADCAST CARDIOID DYNAMIC

Solves Tough Pick-up Problems in Broadcasting and Recording

Broadcast Stations and Recording Studios are rapidly replacing present equipment with this new Shure 555 Broadcast Unidyne. Solves troublesome sound pick-up problems in studio and remote applications. Exclusive Shure "Uniphase" principle provides true cardioid uni-directional performance at surprisingly low cost. Smooth response from 40 to 10,000 cycles at front; dead at rear (down 12-15 db). Cuts down reflection and reverberation effects, reduces background noise pick-up. Extremely rugged construction. Specially-suspended double-wind screened moving coil system. Built-in transverse vibration isolation unit. Swivel head. Satin Chrome finish. Standard $\frac{5}{8}$ "-27 thread. Easily adapted to fit stands with other threads. Equipped with 18" stub of rubber-covered two-conductor shielded cable, trimmed on free end for attachment of connector plug. Stub may easily be replaced by longer length of cable if desired. Case dimensions: $4\frac{1}{2}$ " high, $3\frac{1}{4}$ " wide, $3\frac{1}{2}$ " deep. Shipping weight $4\frac{1}{2}$ lbs. (Call Letter Plate not included).

Model 555A. Broadcast "Unidyne" Dynamic, for 35-50 ohm circuits. Output level into 50 ohms: 62.8 db below 6 milliwatts for 10 bar signal. Code: **Rudid.**
List Price..... **\$60**

Model 555B. Broadcast "Unidyne" Dynamic, for 200-250 ohm circuits. Includes internal transformer. Output level into 250 ohms: 63.8 db below 6 milliwatts for 10 bar signal. Code: **Rudif.**
List Price..... **\$60**

Model 555C. Broadcast "Unidyne" Dynamic. High impedance. Includes internal transformer. Output level: 55.5 db below 1 volt per bar. Code: **Rudiv.**
List Price..... **\$60**

(Broadcast Call Letter Plate, as illustrated, Suspension Adapter, Vibration Isolation Unit, also available for Model 555. Write for Bulletin 165C).

(Shure Patents Allowed on all Microphones above).



SHURE

DYNAMIC and CRYSTAL WIDE-RANGE MICROPHONES



NEW "STRATOLINER" DYNAMIC

Smoother Response for Voice and Music

A new dynamic leader in beauty and performance for general-purpose P.A., remote broadcasting, recording, call systems, and other applications indoors and outdoors. Moving-conductor type. Smooth wide-range frequency response. No annoying peaks or distortions. Very rugged. Practically immune to heat and humidity. Built-in high quality transformer. Permissible cable length practically unlimited with low impedance models. Die cast case finished in rich Satin Chrome. Swivel head easily aimed at source of sound. Semi-directional or non-directional operation. Built-in cable connector. Standard $\frac{5}{8}$ "-27 thread. Diam. $2\frac{1}{2}$ ", length $4\frac{7}{8}$ ". Shpg. wt. $2\frac{3}{4}$ lbs.

Model 508C. High Impedance Dynamic. May be used with crystal microphone amplifier and others with input impedance of 100,000 ohms or more. Output: 60 db below 1 volt per bar. Complete with 25 ft. single-conductor shielded cable. Code: **Rudob.** **\$27.50**
List Price

Model 508A. Low Impedance Dynamic. For 35-50 ohm lines. Output: 68 db below 6 milliwatts for 10 bar signal. Complete with 25 ft. two-conductor shielded cable. Code: **Rudoc.**
List Price **\$27.50**

Model 508B. Low Impedance Dynamic. For 200-250 ohm lines. Output: 68 db below 6 milliwatts for 10 bar signal. Complete with 25 ft. two-conductor shielded cable. Code: **Rudod.**
List Price **\$27.50**

NEW SHURE "500" DYNAMIC

Streamlined for Low-Cost Public Address!

Excellent frequency response assures faithful reproduction of voice and music. Moving-conductor type. Internal matching transformer. Sturdy die cast case finished in Iridescent Gray with highly polished plating on grille. Standard $\frac{5}{8}$ "-27 thread. Spring cable protector. Output: Low Impedance models, 71.8 db below 6 milliwatts for 10 bar signal; High impedance models, 63 db below 1 volt per bar. Low Impedance models permit practically unlimited cable length. High impedance models may be used with any amplifier with input of 100,000 ohms or more. Diameter $2\frac{3}{8}$ ". Shpg. wt. $2\frac{1}{4}$ lbs.

Model 500C-7Ft. High Impedance Dynamic. 7 ft. single-conductor shielded cable. Code: **Rudix.** **\$17.50**
List Price

Model 500C. High Impedance Dynamic. 25 ft. single-conductor shielded cable. Code: **Rudig.**
List Price **\$19.00**

Model 500A. Low Impedance Dynamic. For 35-50 ohm lines. 25 ft. two-conductor shielded cable. Code: **Rudir.**
List Price **\$19.00**

Model 500B. Low Impedance Dynamic. For 200-250 ohm lines. 25 ft. two-conductor shielded cable. Code: **Rudik.**
List Price **\$19.00**

Model A86A. High Quality Cable-Type Transformer to match 35-50 and 200-250 ohm microphones to high impedance amplifier input. Code: **Rudeb.**
List Price **\$10.00**



Shure "Ultra" 700D Crystal Highest Performance

Famous for its fidelity of reproduction and dependable performance. "Ultra" wide-range response from 30 to 10,000 cycles. Output level: 58 db below 1 volt per bar. Triple - moisture - sealed Grafoil Bimorph Crystal. Complete barometric compensation. Internal screen-protected cartridge. Small, compact swivel head. Satin Chrome finish. Built-in cable connector. Standard $\frac{5}{8}$ "-27 thread. Diameter $2\frac{3}{8}$ ". Shpg. wt. $2\frac{1}{4}$ lbs.

Model 700D. "Ultra" Crystal Microphone. Complete with 25 ft. single-conductor. Shielded cable. Code: **Rupaj.** **\$25**
List Price

Model A90A. Directional Baffle for Model 700D Crystal Microphone. Quickly attached or removed. Satin Chrome finish. Code: **Rubaf.**
List Price **\$2.50**



Shure "Rocket" 705A Crystal "Ultra" Performance!

An outstanding choice for general-purpose P.A. Provides both modern beauty and faithful reproduction. Smooth "Ultra" wide-range response from 30 to 10,000 cycles. Output level 58 db below 1 volt per bar. Special moisture-sealed Grafoil Bimorph Crystal and other exclusive Shure "Ultra" features. Swivel head easily aimed at source of sound for best response. Semi-directional or non-directional operation. Built-in cable connector. Rich Satin Chrome finish. Standard $\frac{5}{8}$ "-27 thread. Diameter $2\frac{3}{8}$ ". Length $3\frac{7}{8}$ ". Shpg. wt. $2\frac{1}{4}$ lbs.

Model 705A. "Rocket" Crystal Microphone. Complete with 25 ft. shielded single-conductor cable. Code: **Rupeg.** **\$25**
List Price

Model A91A. Directional Baffle for Model 705A "Rocket" Crystal Microphone. Snaps into place. Easily detached. Satin Chrome finish. Code: **Rubab.** **\$2.50**
List Price



SHURE

CRYSTAL MICROPHONES

Remarkable Quality at Low Cost

NEW "STRATOLINER" CRYSTAL

Modern as Tomorrow—Low in Cost!

Improves appearance of sound set-ups—gives quality reproduction of voice and music for low-cost. Public Address, paging, call systems and other general-purpose uses. Excellent, smooth frequency response. High output level 49.7 db below one volt per bar at end of 7 ft. cable. Genuine Bimorph Crystal. Rich Satin Chrome die cast case. Swivel head easily aimed at source of sound. Built-in cable connector. Standard $\frac{5}{8}$ "-27 thread. Diameter $2\frac{1}{2}$ ". Length $4\frac{7}{16}$ ". Complete with 7 foot single-conductor shielded cable. Shpg. wt. $2\frac{1}{2}$ lbs.

Model 708A. "Stratoliner" Crystal Microphone Code: **Rudum**.

List Price **\$17.50**

Model 708A-25 Ft. Same, with 25 ft. cable. Code: **Rudup**.

List Price **\$19.00**



70H "SUPER-LEVEL" CRYSTAL

Famous for Performance the World Over

For years, the "standby" among sound men for dependable high quality performance! Excellent wide-range response. Highest output level available today in crystal microphones: 47.5 db below 1 volt per bar (27.5 db below 1 volt for 10 bar signal). Requires less amplifier gain; provides a useful margin of extra sensitivity when needed. Moisture-sealed Grafoil Bimorph Crystal. Sturdy cast case; Satin Chrome finish. Built-in cable connector. Standard $\frac{5}{8}$ "-27 thread. 7 ft. shielded cable. Diameter $3\frac{3}{16}$ ". Depth $1\frac{3}{8}$ ". Shpg. wt. 2 lbs.

Model 70H. "Super-Level" Crystal Microphone. Code: **Rupep**.

List Price **\$22.50**

Model 70H-25 Ft. Same, with 25 ft. cable. Code: **Rupec**.

List Price **\$24.00**



New 707A Crystal

Nothing like it at this low cost! Attractive modern die cast case in Iridescent Gray finish with highly polished plating on front grille. Excellent smooth response. Output level 49.7 db below one volt per bar at end of 7 ft. cable. Bimorph Crystal, mechanically isolated. 7 ft. single-conductor shielded cable, with spring protector. Standard $\frac{5}{8}$ "-27 thread. Diam. $2\frac{3}{8}$ ". Shpg. wt. $1\frac{1}{4}$ lb.

Model 707A. Crystal Microphone.

Code: **Rudof**. List Price **\$9.95**

Model 707A-25 Ft. Same, with 25 ft. cable. Shpg. wt. $2\frac{1}{4}$ lbs. Code: **Rudug**.

List Price **\$11.50**



New Hand Microphone

A new lightweight hand microphone developed by Shure Engineers. Beautiful **Tenite** resilient plastic case and handle. Rugged, handy to use. Output level 49.7 db below one volt per bar at end of 7 ft. cable. Genuine Bimorph Crystal, mechanically isolated. Excellent, smooth response. 7 ft. single-conductor, shielded cable. Diam. $2\frac{1}{2}$ ", height overall 6", depth $1\frac{1}{2}$ ". Shpg. wt. $\frac{3}{4}$ lb.

Model 717A. Crystal Hand Microphone.

Code: **Ruduk**. List Price **\$9.95**



Shure 76B Lapel Microphone

Small, light, crystal microphone with high output level. Gives high quality reproduction of speaker's voice. Inconspicuous. Only $1\frac{1}{4}$ " diameter; weight only $1\frac{1}{2}$ oz. Iridescent Gray finish. Handy lapel clip. Complete with 25 ft. shielded single-conductor cable. Shpg. wt. 1 lb. **Model 76B.** Lapel Microphone. Code: **Rulop**.

List Price **\$25**



Special Microphone Cable

Available in standard trimmed 7 ft. and 25 ft. lengths. Other lengths in bulk untrimmed.

Model C10C. Cable. For crystal and high-impedance dynamic microphones. Low capacity and high insulation resistance. Single-conductor type with close shield. Overall rubber jacket. Code: **Rusob**. List Price, per ft. **10c**

Model C24A. Cable. Specially designed for low-impedance dynamic microphones. Has two twisted rubber-insulated conductors, close shield and overall rubber jacket. Code: **Rubel**. List Price, per ft. **10c**

Model C14A. "Super-Shielded" Cable. Hum-free even in intense magnetic and static fields. Single-conductor with double shield. Recommended for Shure "Uniplex" microphone. Code: **Rubem**. List Price, per ft. **16c**

For Shure Microphone Locking-Plug attached to cable, add \$1.50 list.

Cordsets complete with Shure microphone plug and amplifier input plug, completely wired, are available to fit most amplifiers. State amplifier make and model number.

Shure Crystal Devices are Licensed under Patents of the Brush Development Company. Shure Patents Pending.

SHURE

COMMUNICATIONS MICROPHONES

Best for Amateur, Police and Commercial Use



CARDIOID CRYSTAL COMMUNICATIONS

Cleans Up Voice Transmission! Makes Break-in 'Phone Easy!

Famous "Uniplex" model with special Shure speech characteristic! Dead at rear. (Rear response down 12-15 db). Gives studio performance. Cuts down room-noise pick-up, eliminates echoes, assures clearer, more intelligible speech. Cleans up voice transmission. Makes break-in 'phone easy. Ideal for police, commercial and high quality amateur communications. Specially moisture-proofed Grafoil Bimorph Crystal. Output level: 33 db below 1 volt for 10 bar speech signal. Swivel head. Built-in R.F. filter protects against burnouts. Built-in cable connector. Rich Satin Chrome finish. Diameter $3\frac{1}{8}$ ". Depth $3\frac{3}{8}$ ". Standard $\frac{5}{8}$ "-27 thread. Shpg. wt. $1\frac{1}{2}$ lbs. Complete with 7 ft. super-shielded cable.

Model 730SH. Cardioid Crystal Microphone without desk mount. Code: **Rupod.** **\$32.50**
List Price.....

Model 730S. Same, complete with Model S36A Iridescent Gray Desk Mount. Shpg. wt. 3 lbs. Code: **Rupof.** **\$35.50**
List Price.....

New Shure 708SH Crystal



The beautiful new "STRATOLINER" with special Shure speech characteristic for commercial and amateur 'phone. Assures clear, crisp signals. High output level: 29.7 db below 1 volt for 10 bar speech signal. Built-in R.F. filter protects against burnouts. Bimorph Crystal. Die cast case; Satin Chrome finish. Swivel head. Cable connector. Standard $\frac{5}{8}$ "-27 thread. 7 ft. shielded cable. Diam. $2\frac{1}{2}$ ". Length $4\frac{7}{16}$ ". Shpg. wt. $2\frac{1}{2}$ lbs.

Model 708SH. Crystal Microphone without desk mount. Code: **Rupob.** **\$17.50**
List Price.....

Model 708S. Same, complete with Model S36A Iridescent Gray Desk Mount. Shpg. wt. 4 lbs. Code: **Rupoc.** **\$20.50**
List Price.....

"Military-Type" Crystal Microphone



Fits comfortably in palm of hand. Light, compact. Takes minimum space in portable equipment. Die cast case in Iridescent Gray with satin finish grille. Excellent response. Output level: 32.5 db below 1 volt for 10 bar speech signal. Specially designed "ON-OFF" switch. Complete with removable suspension hook, 7 ft. shielded cable and spring cable protector. $3\frac{3}{4}$ " high, $2\frac{3}{4}$ " wide, $1\frac{3}{4}$ " thick. Shpg. wt. 1 lb.

Model 750B. "Military-Type" Hand Microphone complete with switch. Code: **Rusel.** **\$22.50**
List Price.....

(Carbon Type "Military" Hand Microphones are available in quantity only, on special order).

"Super-Level" 70STH Crystal



Here's the world-famous Shure "Super-Level" Communications Microphone. Has the highest output available in a crystal microphone. (26 db below 1 volt for 10 bar speech signal). Shure high-efficiency speech characteristic assures clear, crisp signals, cuts through noise and static. R. F. filter protects against burnouts. Satin Chrome die cast case. Built-in cable connector, with 7 foot shielded cable. Diam. $3\frac{5}{16}$ ". Depth $1\frac{3}{8}$ ". Shpg. wt. 2 lbs.

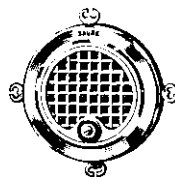
Model 70STH. Crystal Microphone without desk mount. Code: **Rupic.** **\$22.50**
List Price.....

Model 70ST. Same, complete with Model S36A Iridescent Gray Desk Mount. Shpg. Wt. $3\frac{1}{2}$ lbs. Code: **Rupib.** **\$25.50**
List Price.....

Rings and Springs—Fit All Shure Stands

Model R20C. 6" standard ring for carbon microphones. "Quickway" mounting hooks. Satin Chrome. 8 rustproof springs. Shpg. wt. 1 lb. Code: **Ruket.** **\$2.50**
List Price.....

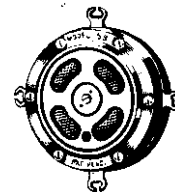
Model R10B. Light 5" ring for small carbon microphones. Satin Chrome finish. 8 rustproof springs. Shpg. wt. $\frac{3}{4}$ lb. Code: **Rujes.** **\$2.25**
List Price.....



Model 3B Two-Button Carbon

Full-size two-button microphone with quality performance for amateur transmitters, intercommunications systems and P.A. installations. Can be used as a single-button microphone. Rigid cast frames. Protective grille. Shure "Quickway" hooks. Satin Chrome finish. Frame diam. 3". Thickness $1\frac{1}{16}$ ". Shpg. wt. $\frac{3}{4}$ lb.

Model 3B. Code: **Ruciv.** **\$5.50**
List Price.....



Model 5B Two-Button Carbon

High quality, full-size two-button microphone. Regular full-size precision adjustable buttons and special screen-protected diaphragm insure exceptionally fine reproduction. Rugged construction. Satin Chrome finish. Shure "Quickway" Hooks. Diam. overall $3\frac{3}{4}$ ". Thickness $1\frac{1}{16}$ ". Shpg. wt. $1\frac{1}{2}$ lbs.

Model 5B. Code: **Rucit.** **\$10**
List Price.....

Two-Button Hand Microphone

Convertible Hand Microphone. Convenient for general-purpose Public Address use! Easily changed from hand to 3B type for stand mounting by removing handle. Iridescent Gray handle. Overall length, $8\frac{7}{8}$ ". Shpg. wt. $1\frac{1}{2}$ lbs. Complete with 6 ft. three-conductor cable and 4 "Quickway" Hooks.

Model 10B. Two-Button Hand Microphone. Code: **Rucor.** **\$10**
List Price.....



Microphone Repair Service

{All microphones require occasional repairs. Carbon microphones need reconditioning at least once a year to maintain sensitivity and quality. "Microphone Headquarters" maintains a special department for repairing and reconditioning many types and makes of microphones. Write for quotations.

SHURE

STANDS and ACCESSORIES

Improve Microphone Operation and Performance

"Stabilized" Friction-Lock Floor Stands

Beautiful, sturdy Shure Floor Stands improve appearance and operation of any sound set-up. Height adjustments made easily, quietly, with super-positive Friction Lock. 3-point "Stabilized" base cushioning gives 10-18 db reduction of shock and vibration. Molded soft rubber cable guide, $\frac{5}{8}$ "-27 thread.

Model S50B. Floor Stand. Satin Chrome finish. Round Base (9 $\frac{1}{2}$ " diam.; wt. 8 lbs.). Height adjustment 44 $\frac{3}{8}$ " to 70 $\frac{1}{2}$ ". Shpg. wt. 11 $\frac{1}{2}$ lbs. Code: Rusaf.

List Price..... **\$10**

Model S51B. Floor Stand. Satin Chrome finish. Beautiful Tenite plastic ornament at base. Round base. (Diam. 10 $\frac{1}{2}$ ", wt. 10 lbs.). Height adjustment 44 $\frac{3}{8}$ " to 70 $\frac{1}{2}$ ". Shpg. wt. 13 $\frac{1}{2}$ lbs. Code: Rusif.

List Price..... **\$12.50**

Model S55A. "Studio-Type" Floor Stand. Heavy 3-leg base. (Wt. 10 $\frac{1}{2}$ lbs.). Leg spread 15 $\frac{1}{2}$ ". Height adjustment 48" to 70". Shpg. wt. 14 lbs. Iridescent Gray finish. Code: Rusat.

List Price..... **\$15.50**

3-Section Utility Stand

Model S54C. 3-section Floor Stand. Especially suitable for portable use. Shure Friction-Lock. Modern round base. (Diam. 9 $\frac{1}{2}$ ", wt. 8 lbs.). Iridescent gray finish. Ht. range 30" to 64". Shpg. wt. 11 $\frac{1}{2}$ lbs.

Code: Rusap. List Price..... **\$10**

Cable-Type Transformer

Model A86A. High quality Cable-Type Transformer. Matches 35-50 and 200-520 ohm microphones to high impedance amplifier input. Compact, sturdy. Case diam. 1 $\frac{3}{8}$ ", length 2 $\frac{3}{4}$ ". 7 ft. cable. Shpg. wt. 1 $\frac{1}{2}$ lbs.

Code: Rudeb. List Price..... **\$10**

Take-Apart Stand

Model S34A. New, handy low-cost stand for desk or hand use. One twist of handle locks it securely in base for use as a desk or table stand, or releases handle for use in hand. Metal base, wood handle. Metal top threaded $\frac{5}{8}$ "-27. Height over all 6 $\frac{11}{16}$ ". Base diam. 4 $\frac{1}{2}$ ". Length of handle 5 $\frac{3}{8}$ ". Shpg. wt. 1 lb.

Code: Rukab. List Price..... **\$1.85**

Model A41A. Microphone Handle. Solid wood with brass ferrule on top threaded $\frac{5}{8}$ "-27. Code: Rujad. List Price..... **75c**

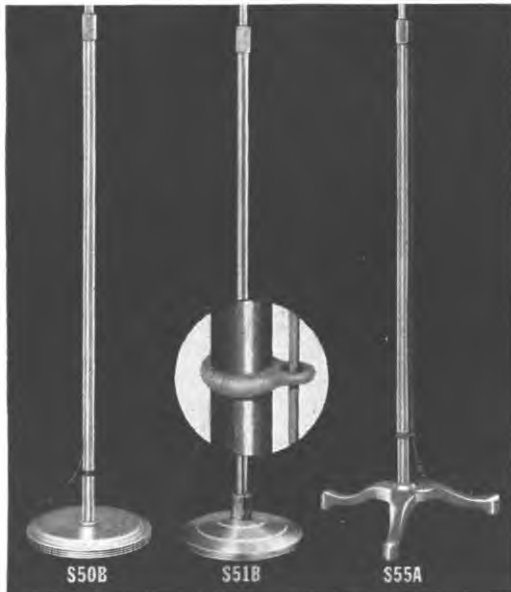
Modern Desk Stands

Model S36A. Beautiful, streamlined Desk Mount, with stable support at correct height. Fits Shure connector-type microphones, concealing plug in base. Adapter plate and tubing provided for other type microphones. Ornamental button at front may be removed for installation of $\frac{5}{8}$ " standard bushing switch or volume control. Iridescent Gray finish. Base: 2 $\frac{1}{2}$ " high, 5" wide, 7" long. Shpg. wt. 1 $\frac{1}{2}$ lbs. Code: Rusef. List Price..... **\$3.50**

Model S32D. Highly attractive modern desk stand, finished in Iridescent Gray and Satin Chrome. Shure "Friction-Lock" provides easy, positive height adjustment from 7" to 11". $\frac{5}{8}$ "-27 thread. Base diam. 6". Shpg. wt. 3 $\frac{1}{2}$ lbs. Code: Rused. List Price..... **\$6.50**

Stand Adapter

Model A20A. Mounts microphones with $\frac{1}{2}$ " Pipe Thread on $\frac{5}{8}$ "-27 thread stand. Code: Rudap. List Price..... **\$1.00**



New "Broadcast" Stand

Model S510A. Designed for both beauty and utility. Heavyweight, stabilized 3-leg base hugs floor, provides firm footing. Quick, positive friction lock. Mounts all types of microphones. Standard $\frac{5}{8}$ "-27 thread. Inner tubing has $\frac{1}{2}$ " pipe thread outside and $\frac{5}{8}$ "-24 thread inside. Height adjustable from 45" to 79". Leg spread 16 $\frac{1}{2}$ ". Net wt. of tubing assembly 6 $\frac{1}{2}$ lbs. Net wt. of base 22 $\frac{1}{2}$ lbs. Shpg. wt. 32 lbs. Code: Rusop. List Price..... **\$42.50**

Microphone "On-Off" Switches

Rotary and push-button types. $\frac{5}{8}$ "-27 thread

Model A83A. Quickly attached to any cable-connector type Shure microphone. No wiring; internal plug establishes connections. Bakelite arrow knob. Code: Runim. List Price..... **\$4.00**

Model A80B. Threaded $\frac{5}{8}$ "-27 to fit non-connector type microphones. Bakelite arrow knob. Code: Runib. List Price..... **\$2.50**

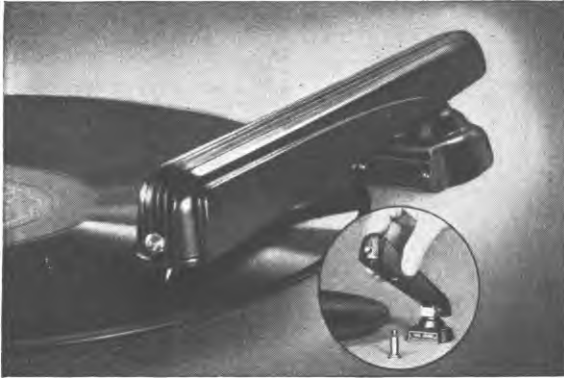
Model A84A. Momentary "On-Off" Switch. Press-to-talk Bakelite disc. Code: Runid. List Price..... **\$4.50**

Model A85A. Momentary Relay-Type Switch. Normally open switch closes circuit comprising one open conductor and shield of outgoing cable for operation of relay or other device. Remaining conductor and shield of cable carry microphone output! Bakelite disc. Code: Runif. List Price..... **\$4.50**



SHURE

CRYSTAL PICKUPS and MAGNETIC RECORDING HEAD



Zephyr "Balanced-Tracking" Crystal Pickup

High quality reproduction of voice and music. Beautifully streamlined, bakelite molded, prize-winning design. Full frequency range reproduction. Plays 10" and 12" records. Exclusive Shure "Needle-Tilt" Balanced Tracking keeps needle true to groove. Needle pressure 2 3/4 ounces. "Full floating" non-resonant tone arm. Grafoil Bimorph crystal, triple moisture-sealed. Output voltage, approximately 2 1/4 volts. Dimensions: 11 1/2" long, 2 5/16" high, Base 2" wide. Playing radius 8 5/8". Shpg. wt. 1 1/4 lbs. (Shure Des. Pat. 118,747).

Model 99C. "ZEPHYR" Crystal Record Reproducer. Black Bakelite Molded. Complete with 3 1/2 ft. shielded cord, arm rest, mounting screws and motorboard drilling template. Code: **Ruzag.** **\$7.50**
List Price.....

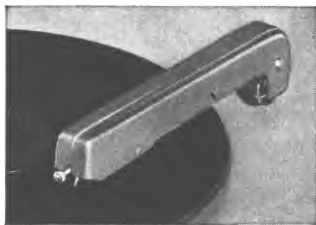
Model 99CW. Same, but Walnut Bakelite Molded. Code: **Ruzaw.** List Price..... **\$7.50**

Model 98A. Black Bakelite Arm. Similar to 99C, but single hole mounting type. Code: **Ruzub.** **\$6.50**
List Price.....

Model 98AW. Same, but Walnut Bakelite Arm. Code: **Ruzud.** List Price..... **\$6.50**

Shure 94A "Economy" Crystal Pickup

Designed for compact record players! Mounts in minimum space. Plays 10" and 12" records. Has Shure "needle-tilt" Balanced-Tracking. Triple-moisture-sealed Grafoil Bimorph Crystal. Full range frequency response. Output, 2 1/4 volts. Low needle pressure. Floating rubber-cushioned pivot bearing assembly for single-hole mounting. Attractive cast arm. Smooth brown finish. Length 7 15/16". Complete with 20" shielded cord, arm rest and motorboard drilling template. Shpg. wt. 3/4 lb.



Model 94A. Crystal Pickup. Code: **Ruzec.** **\$4.95**
List Price.....

Crystal Pickup Replacement Cartridges



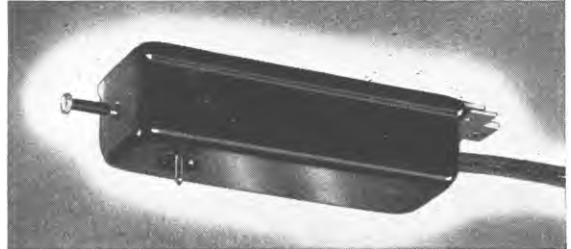
W20C

Model W20C. Metal type cartridge that fits Shure 99, 94 and 910 pickups. Has built-in "Needle-Tilt" Balanced-Tracking. Code: **Ruzim.** List Price..... **\$4.00**



W27C

Model W27C. Bakelite type cartridge for universal replacement. Three-in-one all-purpose unit. Has lug terminals, but is also supplied with screws and pins for quick, easy conversion to screw or "plug-in" pin terminal type as used in many record players and "coin machines." Straight needle tracking. Code: **Ruzor.** List Price..... **\$5.00**



Shure 44A Magnetic Recording Head

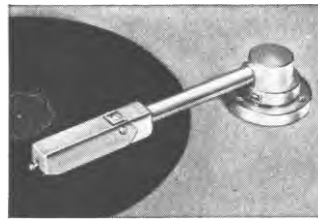
Offers New, Distinct Advantages!

The Shure 44A Magnetic Recording Head is a high-quality wide-range record cutter with new advance features. Ideal for use with home recording equipment. Designed to operate directly from the voice-coil winding of the output transformer. Stiff moving element permits recording on practically all recording materials. Records can be played back on any record player. The 44A is exceptionally rugged and stable—will give long, satisfactory service under all climatic conditions. High Sensitivity. May be operated from the output stage of almost any radio set. Impedance: 4 ohms DC (10 ohms at 400 cycles), suitable for output circuits having impedance of 4 to 8 ohms. Other impedance values are available on special order. The 44A Magnetic Cutter fits directly into the General Industries recording mechanism. Also has two tapped holes for adaptation to other types of mountings. Steel, alloy-tipped, or sapphire recording stylus may be used. 36" flexible leads. Length overall 3 3/4"; less screw 3 1/4". Shpg. wt. 8 oz.

Model 44A. 4 ohm Magnetic Recording Head. Without cutting stylus. Code: **Ruzad.** **\$11.50**
List Price.....

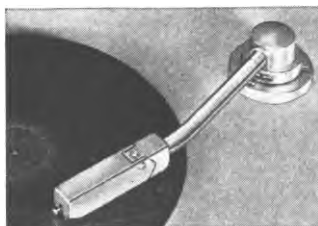
Transcription-Type Crystal Pickups

Meet the latest requirements for high quality reproduction of lateral records in broadcasting, recording and public address work. Smooth high frequency response. Full bass response adjustable with simple networks in the input circuit. Output approximately 2 1/4 volts. Grafoil Bimorph Crystal, triple-moisture-sealed. Easy needle-changing. Head locks in place when tilted back. Arm locks in place when swung



away from turntable. Needle-pressure 2 3/4 ounces. Statuary Bronze finish overall. Complete with 3 1/2 ft. shielded cord, mounting screws and motorboard drilling template.

Model 910B. For 10" and 12" records. Straight-arm design, with Shure "needle-tilt" Balanced Tracking. Overall length 10 3/4". Shpg. wt. 2 lbs. Code: **Ruzil.** **\$15.50**
List Price.....



Model 914A. For 16", 12" and 10" records. Bent arm tracking correction. Overall length, 12 7/8". Shpg. wt. 2 lbs. Code: **Ruzig.** **\$16.50**
List Price.....

Shure Crystal Devices are licensed under patents of the Brush Development Company. Shure Patents Pending.

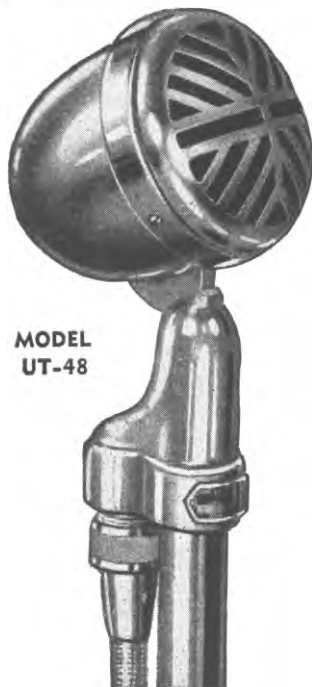


ASTATIC



TRADE MARK REGISTERED
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CRYSTAL MICROPHONES AND PICKUPS



MODEL UT-48

Astatic Microphones have proven their right to a position of leadership by careful engineering, efficient manufacture, rigid laboratory control and satisfaction in performance. Astatic manufactures a microphone for every field of service including studio, public address, amateur and home recording purposes, combining top performance, beauty and durability at prices consistent with quality and the public demand.

MODEL UT-48, AMATEUR SPECIAL Moderately Priced Speech-Range Microphone

Here is a crystal microphone that amateurs have received with open arms . . . a moderately priced speech-range microphone that incorporates modern features to conform with present day demands and latest equipment. Model UT-48 is equipped with a crystal cartridge of the single diaphragm type with a recommended load impedance of 5 megohms. High output level of -48db allows minimum gain in the associated speech amplifier, and assures a minimum of r-f feedback. In order to stress voice-range response, Model UT-48 is designed with rising characteristics from 500 to 3,500 c.p.s. Tilting head permits semi- or non-directional positions adding to its practicability and providing an effective method of controlling acoustic feedback. Model UT-48 is designed with a beautiful, modern, die-cast grille and body and comes in a lustrous, durable, satin chrome finish. Standard equipment includes swivel mount, concentric cable connector and 7-ft. cable. Model UT-48, Voice Range (Code ASVDH). List Price **\$16.50**

Note: When wide-range response is required specify Model UT-48W (Code ASVDG)..... Same List Price.

MODEL T-3 CRYSTAL MICROPHONE Wide-Range with Plug and Connector

Professionals and amateurs alike, who have used Astatic Model T-3 Crystal Microphone are enthusiastic over its practicability and performance in almost every field of usage. It is an especially fine model for high class recording use as well as studio set-ups, amateur rigs, intercommunicating systems and public address equipment. This model is of the semi-directional type although the microphone head may be tilted with ease and safety on its unique swivel mounting and the pickup pattern made non-directional in vertical position if so desired. The tilting head further provides a convenient method of effectively controlling acoustic feedback. Model T-3 has an output impedance of 5 megohm load; output level -52db and frequency response substantially uniform from 30 to 10,000 c.p.s. Bright chrome finish. Standard equipment includes plug, connector with 5/8"-27 stand thread, Spring Cable Protector and 25-ft. cable. Model T-3 (Code ASVCX). List Price\$25.00



JT-SERIES CRYSTAL MICROPHONES Wide-Range and Voice-Range Models

Because it fills, so completely, a long standing demand for a really good microphone for universal use at a popular price, Astatic's JT-Series increases in demand. These microphones are manufactured in practical wide-range models, semi-directional in design, Model JT-30-TT, and in a voice-range model, JT-40-TT. Matched acoustic circuit results in a pleasing bass response with uniform highs, free from objectionable peaks or dips. Massive cartridge freely suspended within heavy die-cast housing produces a microphone dead to "vibrophonics". Output level of -52db provides ample reserve for use in connection with all high gain amplifiers. Frequency response rising from 30 c.p.s. to 6,000 c.p.s. with downward slope beyond 6,000 cycles. Choice of two finishes: two-tone opalescent gray and chrome or all-chrome. These microphones come equipped with wood handle and interlocking metal base for use as desk or hand microphones. Wood handle may be removed and microphone used on any floor stand threaded 5/8"-27. Standard equipment also includes Concentric Cable Connector, 25-ft. rubber covered, single wire, shielded cable and Spring Cable Protector. 5/8"-27 stand thread in case. Model JT-30-TT (Code ASVLD) List Price\$16.50



Note: When voice-range response is desired, designate as JT-40-TT (Code ASVLD) Same List Price.

PIONEER MANUFACTURERS OF QUALITY CRYSTAL DEVICES



ASTATIC



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CRYSTAL MICROPHONES AND PICKUPS

HIGH QUALITY MULTI-UNIT MICROPHONES Incorporating Exclusive Dual-Diaphragm Construction



For studio and public address installations requiring high quality, attractive microphones, Astatic presents the WR-Series Multi-Unit Crystal Microphones, capable of results comparable with the finest, regardless of type or cost. The WR-Series is made in two models: WR-20 utilizing two dual-diaphragm crystal cartridges with four diaphragms, and WR-40 utilizing four dual-diaphragm crystal cartridges and eight diaphragms. Due to this multi-unit interior assembly design, the WR-Series Microphones cannot be acoustically overloaded, recommending them highly for recording studio, orchestra and public address installations. Output impedance, 5 megohms. Output level, —56db. Frequency response 30 to 10,000 c.p.s. with 3db variation. Tilting head conceals and protects lead wires and provides a method of controlling acoustic feedback. Beautiful modern case with lustrous chrome finish. Standard equipment includes Plug, Connector and 25-ft. cable.

Model WR-20 (Code ASVGZ) List Price..... \$29.50
Model WR-40 (Code ASVAL) List Price..... 39.50



MODEL K-2 MICROPHONE

Astatic Model K-2 is a non-directional, dual-unit crystal microphone used extensively for studio requirements, recording, dance bands, public address installations and general applications where quality performance is required. Four small annular ring diaphragms are used in connection with selected graphoil crystal elements and dual driving yokes. The diameter of the diaphragms is less than the wave length of the highest frequency encountered in high fidelity applications. Model K-2 gives smooth, undistorted reproduction, cannot be acoustically overloaded, and has twice the capacitance of the usual Crystal Microphone and correspondingly longer cable lengths may be used. Output impedance, 5 megohm load. Output level, —60db. Frequency response, 30 to 10,000 c.p.s. with rising characteristics beyond 6,000 c.p.s. Bright chrome finish. Complete with Plug, Connector, Spring Cable Protector and 25-ft. cable.

Model K-2 (Code ASURX) List Price..... \$27.50



SPEECH-RANGE MODEL D-104

Here is an Astatic time-tested and proven crystal microphone favored by veteran amateurs the world over. Model D-104 was the first practical crystal microphone ever developed and has been continuously improved as the science of amateur radio communication progressed. Sturdy construction to withstand rough portable usage and give long satisfactory service. D-104 employs a large single annular ring diaphragm cartridge assembly and provides desired response characteristics in the voice range, rising above 500 cycles (to 4,000 c.p.s.) to stress the important speech frequencies. Model D-104 does not gum up or overload when used for close talking applications. High output level, —48db, requires minimum gain in the associated speech amplifier and assures a minimum of r-f feedback. Bright chrome finish. Standard equipment: Plug Connector, Spring Cable Protector and 7-ft. cable.

Model D-104 (Code ASUPA) List Price..... \$22.50

PIONEER MANUFACTURERS OF QUALITY CRYSTAL DEVICES



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CRYSTAL MICROPHONES AND PICKUPS



ASTATIC MODEL "DN" DYNAMIC MICROPHONE Designed with Unitary Moving Coil System

Here is a semi-directional, all-purpose dynamic microphone incorporating new engineering features such as Unitary Moving Coil System and a carefully proportioned acoustic circuit to highly damp the natural resonance of the moving system and provide a response characteristic substantially flat from 50 to 7,000 cycles. Case is of modern design, attractively

finished in two-tone opalescent gray and chrome. Complete barometric compensation. Model "DN" employs all features necessary for wide applicability, including Astatic's tilting-head swivel mount and plug connector with spring cable protector. Output level —55 db. Complete with 25-ft. cable. List Prices as follows:

Model DN-50, Impedance 50 ohms (Code ASVNI)	\$20.00
Model DN-200, Impedance 200 ohms (Code ASVNI)	\$22.50
Model DN-500, Impedance 500 ohms (Code ASVNH)	\$22.50
Model DN-HZ, Impedance 50,000 ohms to grid (Code ASVNG)	\$22.50

Note: All models except DN-50 are supplied with internal matching transformer.

ASTATIC MICROPHONE STANDS CONNECTORS AND ADAPTORS

Astatic's novelty Mike-Lite, popular Grip-to-Talk Desk Stand, Standard Size Desk Stands, Floor Stands, Switch Adaptors and Cable Combinations.

SC-25 \$5.00
 F-11 With 8 ft. Cable \$3.20
 HA-25 \$4.00
 HS-25 \$5.00
 Banquet Stand A-3 \$7.00
 Floor Stand A-1 \$10.00
 G \$10.00
 Plug Connector
 MIKE-LITE (Less Mike) ML \$32.50
 5/8-27 Thread E-1 \$3.00
 Plug Connector F \$6.00
 5/8-27 Thread E-6B—E-6G \$2.50

MODEL L-1, LAPEL TYPE CRYSTAL MICROPHONE

This non-directional type Crystal Microphone utilizes the exclusive Astatic dual-diaphragm principle functioning on a single graphoil bimorph crystal element. Ideal for singers, speakers and special announcers requiring a wide latitude of movement. Designed to clamp tightly and neatly to lapel with over-shoulder cord. Inconspicuous to both performer and audience. Statuary bronze finish. Frequency response substantially flat from 30 to 10,000 c.p.s. Output level, —62db. Complete with 25-ft. single wire braid covered cable.



Model L-1 (Code ASUSN)
 List Price \$25.00

ASTATIC MODEL R-3 CRYSTAL MICROPHONE

With the introduction of Model R-3, Astatic opens a new field for crystal microphones with high output and excellent frequency characteristics at low cost. Genuine Bimorph Crystal with Ebonite treating. Output level, —52db. Case threaded 5/8" — 27 for use with standard desk or floor stand. Output impedance, 5 megohm load. Finish, brown with polished metal grille. Standard equipment includes 7-ft. single conductor, shielded cable.



Model R-3 (Code ASVDB)
 List Price \$9.95

PIONEER MANUFACTURERS OF QUALITY CRYSTAL DEVICES

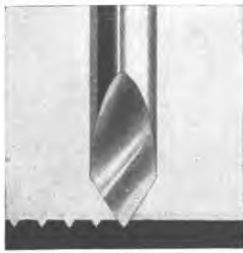


ASTATIC



TRADE MARK REGISTERED
LICENSED UNDER BRUSH DEVELOPMENT CO. PATENTS—ASTATIC PATENTS PENDING

CRYSTAL MICROPHONES AND PICKUPS



AST-A-LOY CUTTING STYLUS

This rare metal-tipped cutting stylus, is recommended where a semi-permanent stylus is desired. Razor sharp cutting edges. High quality reproduction assured. Each Ast-a-Loy Cutting Stylus is shadow-graphed and microinspected for precision of operation.

Code ASWSN.....List Price \$1.30



LP-21 and LP-23 Cartridges



L-25 Cartridge



B-1 Cartridge



E4P TONE EQUALIZER

Recommended for use with any crystal pickup. Model E4P is an adjustable tone compensation network to be connected between crystal pickup and amplifier. A rotary switch provides four different equalizing circuits, i.e., bass, medium, hi-fidelity and out. Model E4P mounts in a single hole and is complete with a dial plate and knob. Complete instructions supplied with each equalizer.

Model E4P (Code ASVHD)
List Price \$3.00



CRYSTAL RECORDING HEADS

Astatic Crystal Recording Heads are made in two models, X-26 and X-29, both ideal for recording on coated blanks, as they have a high order of internal stiffness, excellent response at high frequencies, and freedom from distortion. They may also be used to record on wax and thermoplastics with equal success, the high internal stiffness permitting good groove spacing and negligible frequency response change with various recording materials. These units are housed in heavy die cast cartridge assemblies, have covered terminals and 24" flexible leads. The internal impedance is capacitive. Essentially, the amplitude of stylus motion, for constant applied voltage, is the same for all frequencies. By the use of suitable resistance-capacity networks, the standard constant-velocity recording characteristic may be obtained.

Model	Item	Driving Voltage	Useful Upper Limit	Finish	Code	List Price
X-26	Recording Head	75 Volts RMS	5,000 c.p.s.	Tel-Black	ASXMI	\$11.50
X-29	Recording Head	120 Volts RMS	6,500 c.p.s.	Tel-Black	ASXMH	11.50

Note: Model T-26 Matching Transformer with impedance ratio of 500 to 60,000 ohms, is available. Code ASXNO. List Price \$7.00.



L-22 and L-26 Cartridges



M-22 Cartridge



B2X and B2 Cartridges



B-3 Cartridge

CRYSTAL PICKUP REPLACEMENT CARTRIDGES

Replacement cartridges for Astatic Crystal Pickups and Automatic Phonographs

Model	Terminals	Replacement for	*Output Voltage	Code	List Price
LP-21	Lug	FP-18	.85	ASWUL	\$8.00
LP-23	Lug	FP-38	.65	ASWUJ	8.00
L-25	Lug	FL-58	1.25	ASWUK	6.00
L-26	Lug	D-9, SL-8	1.4	ASWVZ	4.00
L-22	Lug	AL-8	1.75	ASWCP	5.00
M-22	Lug	O-7	2.9	ASWJM	5.00
B2X	Screw	B-16, B-10	2.5	ASWHK	6.00
B1	Lug	S-8	2.5	ASWHM	5.00
B2	Screw	AB-8, S-12	2.5	ASWHJ	5.00
B3	Pin	Automatic Phono.	2.5	ASWHI	5.00
B4	Wires 3" Long	Record Changers	2.5	ASWHH	5.00

*Average at 1,000 c.p.s. Audiotone 78-1 Record.

Note: B types Bakelite, M and L types Metal.

PIONEER MANUFACTURERS OF QUALITY CRYSTAL DEVICES



ASTATIC

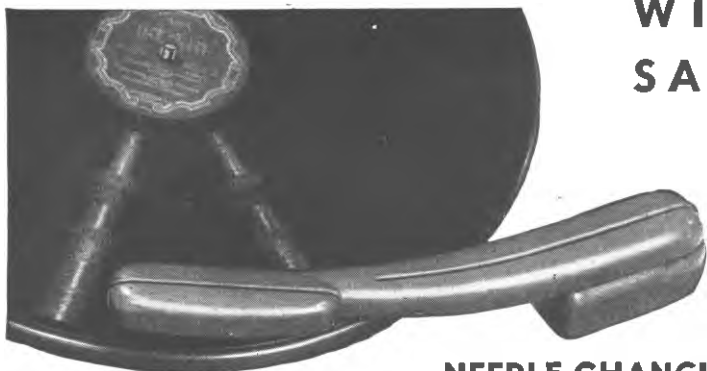


TRADE MARK REGISTERED
 LICENSED UNDER BRUSH DEVELOPMENT CO. PATENTS—ASTATIC PATENTS PENDING

CRYSTAL MICROPHONES AND PICKUPS

ASTATIC LOW PRESSURE CRYSTAL PICKUPS

WITH PERMANENT SAPPHIRE STYLUS



Basically different from previous crystal pickups, Astatic Low Pressure Models FP-18 and FP-38, contribute immeasurably to the perfection, convenience and economy of phonograph reproduction. Inclusion of these models in the Astatic Pickup line, brings to a volume market, for the first time, the advantages of built-in permanent styli and low stylus pressure.

Long Record Life

Pressure on the stylus of these units is only one ounce, hardly more than 1/3 the needle pressure necessary in conventional pickups. Records, practically speaking, don't wear out under this pressure; they retain their new condition for hundreds of plays. Surface noise, inherently lower with these pickups on new records, remains low with repeated playing. Distortion due to wear is practically eliminated. With instantaneous recordings, the increase in life is even more pronounced than with commercial records. The stylus is a highly polished, precisely contoured sapphire, set in light weight shank, surrounded by "U" shaped guard. Astatic uses only highest quality sapphires, selected carefully for this service.

NEEDLE CHANGING NO LONGER NECESSARY

Astatic Low Pressure Pickups with permanent sapphire point, do away with the necessity for changing needles. At one ounce pressure, exhaustive life tests have shown that after 5,000 plays on ordinary ten-inch shellac pressings (250 hours continuous service) operated in a commercial record changer, LP-21 cartridges (used in the FP-18) could not be distinguished from new under the most exacting performance tests. Microscopic examination confirmed the fact that indefinitely greater life was still available. Accidental damage to the stylus, even under severe abuse, is prevented by protective design features incorporated in the cartridge. Offset angle of the pickup arm is such that a low tracking error is combined with balanced sidewall pressures in the record groove. Stylus pressure is controlled by spring action, permitting a low value of up-and-down inertia not obtainable with a counterweighted arm. These low-pressure pickups will be found quite as stable as are pickups operating at higher needle pressures.

Semi-Low Pressure Pickup Model FL-58

Astatic offers Model FL-58, operating at 2 ounce needle pressure and designed with the lightest moving system possible with replaceable needles. Most satisfactory performance is obtained with the Astatic Hi-Fi-Ton Model FT Needle, with which several hundred plays may be obtained between needle changes. Compared with 2 3/4 ounce pickups, improved performance will be noticed, attributable mainly to lowered needle pressure, light weight moving system and low needle point stiffness. Output Voltage, open circuit . . . 1.25 volts. Frequency Range . . . 30 to 6,500 cycles. Outline Dimensions . . . Identical with Model FP-18. Finish, Statuary Brown.

Model FP-18
(Code ASXIE)

Model FP-38
(Code ASXID)

Above models complete with Arm Rest

LIST PRICE \$16.50

Stylus Pressure	1 ounce, spring controlled
Stylus Type	Sapphire, permanently incorporated
Cartridge Type in FP-18	Model LP-21 Standard Low Pressure
Cartridge Type in FP-38	Model LP-23 Special Low Pressure
Mounting Centers	8 inches (for 10" and 12" records)
Overall Length	9 5/8 inches
Cable	2 ft. shielded cable
Frequency Range—FP-18	30-7,000 cps (for use on commercial records)
Frequency Range—FP-38	30-10,000 cps (for hi-fidelity applications)
Output Voltage—FP-18 (Open circuit at 1,000 cps Audiotone record)	0.85 volt
Output Voltage—FP-38 (Open circuit at 1,000 cps Audiotone record)	0.65 volt
Output Voltage—FP-18 (At maximum equalization 1,000 cps Audiotone record)	0.2 volt
Output Voltage—FP-38 (At maximum equalization 1,000 cps Audiotone record)	0.15 volt

ASTATIC HI-FI-TON PICKUP NEEDLES

These long-life needles are properly engineered and balanced to assure correct performance in Astatic Crystal Pickup Cartridges. They are an outstanding improvement over ordinary steel needles and can be used on all types of recordings. Astatic Hi-Fi-Ton Needles are tipped with a precious metal alloy providing a point, accurately ground and polished, that will withstand over 500 playings of shellac pressings and much longer life may be expected with home recordings. This special alloy has a lubricating effect which reduces record wear to a minimum. Needles are packaged individually, one to a card, sealed in cellophane envelopes.

MODEL FL-58 (Code ASXIC)

List Price \$13.50

Model	Length	For Use in	Code	List Price
FT	5/8"	L-25 Only	ASWSO	\$1.00
HT	3/4"	L, M and B except L-25	ASWSP	1.00

PIONEER MANUFACTURERS OF QUALITY CRYSTAL DEVICES



ASTATIC



TRADE MARK REGISTERED
LICENSED UNDER BRUSH DEVELOPMENT CO. PATENTS—ASTATIC PATENTS PENDING

CRYSTAL MICROPHONES AND PICKUPS

COMPLETE LINE OF DEPENDABLE CRYSTAL PICKUPS

Astatic manufactures a full line of Crystal Pickups, any one of which can be depended upon to give extremely satisfactory performance. Where high type installations are mandatory, Astatic provides Pickups of extra quality materials, workmanship and finish, but also makes available in lower price brackets, Pickups that can be depended upon to render excellent and satisfactory service. A somewhat limited description of each of these models is given below.



← **MODEL B-16**—This is Astatic's finest offset arm Crystal Pickup designed for professional use on lateral transcriptions of all sizes. Tru-Tan offset head reduces tracking error to 2.4 degrees on a 16" record. Free from mechanical resonance throughout the audio range. Response characteristic may be altered to suit conditions by modification of input circuit. Overall length, 14". Needle pressure 2 3/4 oz. Complete with 4-ft. single conductor shielded cable and individual arm rest.
Model B-16, Code ASWKG.....List Price \$22.50



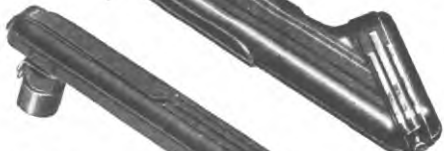
← **MODEL B-10**—Here is another deluxe Crystal Pickup, intended for those who desire the ultimate in fidelity of record reproduction. Tru-Tan offset head design. Plays both 10" and 12" records. Ball bearing swivel base. Selected Type B Cartridge. Beautifully finished in black and chrome. Overall length 12 1/2". Needle pressure, 2 3/4 oz. Complete with 4-ft. single conductor shielded cable and individual arm rest.
Model B-10, Code ASWKH.....List Price \$17.50



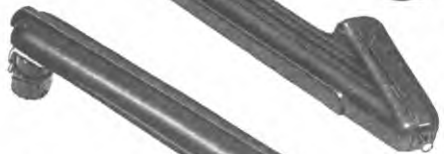
← **MODEL AB-8**—In this Crystal Pickup, Astatic offers a new high type performance combined with ultra modern styling. Special features include Spring-Axial Cushioning, Astatic's famous Type B (Bakelite encased) Cartridge with internal damping to assure permanence, Bender Crystal element with "Ebonite" waterproof coating, and last but not least, a massive new die-cast arm. For use with 10" and 12" records. Overall length 10 7/8". Needle pressure, 2 3/4 oz. Statuary Brown finish. Complete with 4-ft. single conductor shielded cable and arm rest.
Model AB-8, Code ASXFZ.....List Price \$10.00



← **MODEL O-7**—This Astatic Pickup was designed primarily for radio-phonograph combinations and public address applications requiring quality output combined with short mounting center of only 7". Axial cushioned, die-cast, Tru-Tan arm. Now furnished with the improved M-22 Type Cartridge. Graphoil Bimorph Crystal element, Ebonite treated. Output response may be altered to suit conditions. Telephone black with bright chrome trim. Overall length, 9 1/4". Needle Pressure, 2 3/4 oz. Complete with 4-ft. single conductor shielded cable and arm rest.
Model O-7, Code ASWOK.....List Price \$6.50



← **MODEL D-9**—In this carefully engineered Crystal Pickup, Astatic combines low cost with high performance standards. Model D-9 was designed primarily for new applications in manual record players, and is also used extensively for modern replacements. Mounting center distance adjustable to 6 1/2" or 7" to fit most record players manufactured the past several years. Sturdy die-cast Tru-Tan arm coupled by spring-axial cushion to convenient single hole base. Employs popular L-Type Cartridge. Overall length 9 1/2". Needle Pressure, 2 3/4 oz. Statuary Brown finish. Complete with 12" plain leads and locking arm rest.
Model D-9, Code ASXFU.....List Price \$4.95



← **MODEL SL-8**—Straight-arm pickups such as Model SL-8 are often preferred for certain specific applications, particularly for lightly cut home recordings as they do not have the tendency to jump grooves or sweep to the inside of the record. Sturdy die-cast arm, spring-axial cushioning and L-Type Cartridge. Mounting center distance adjustable to either 7" or 8". Overall length 9 1/2". Needle Pressure 2 3/4 oz. Statuary Brown finish. Complete with 12" plain leads and locking arm rest.
Model SL-8, Code ASXFT.....List Price \$4.95



← **MODELS S-8 and S-12**—These are the original crystal phonograph pickups engineered by Astatic and still favorites with sound men desiring a straight arm. These pickups are now equipped with axial cushioning for protection against motor vibration and feedback. Model S arms are constructed from rigid steel channel, equipped with ball bearing swivel base and Astatic's famous Type B Cartridge. Standard finish, black wrinkle. Model S-8, overall length 9 1/2", mounting center 8", Code ASWCA. List Price \$10.00. Model S-12, overall length 15 1/4", mounting center 12", Code ASWEZ.....List Price \$12.50

PIONEER MANUFACTURERS OF QUALITY CRYSTAL DEVICES

BRUSH *Crystal Microphones*

TO MEET the problems encountered in so many Public Address installations, The Brush Development Company presents its new All Purpose crystal microphone (Model AP) combining high output level, high and low impedance connections, and control of high and low frequency response.

For those applications where fine quality is desired (and where there are reasonably good acoustics and loud speakers), Brush

presents its new Quality with Output crystal microphones (Models QO and QOM) combining exceptional fidelity of response up to 9,000 cycles per second, with only a little less than the highest output.

All Brush crystal elements are now waterproofed by an improved and closely controlled process, assuring exceedingly uniform and impervious protection.



MODEL AP

NEW BRUSH "All-Purpose" MICROPHONE MODEL AP

- As a good general purpose microphone, the Brush AP is without equal. Never before has such a universal microphone been offered to the trade.
- Its many features are housed within a satin chrome, die cast case of modern and arresting design.
- Exceptional sensitivity (-48 db.*), satisfactory operation with even the smallest type of P. A. amplifiers.
- Conveniently variable tone control of bass and treble. "Mellow Quality" or good articulation as desired.
- Effective output of amplifier (also transmitter) may be increased by eliminating unnecessary bass.
- Control of feedback.
- High or low impedance operation, viz., crystal impedance (22,000 ohms at 1000 c.p.s.) or 50, 200, or 500 ohms. Conversion of impedance easily and quickly accomplished.
- Crystal capacity unusually high (.007 mfd.), permitting the use of considerably more cable than with ordinary microphones.
- Moderately directional.
- No compensation necessary for cable length.
- Position of microphone easily adjustable with new unique swivel design.
- Suitable for outdoor operation: immune to wind disturbances.

Net Wt., 2 lbs. 4 oz. Shipping Wt., 5 lbs. Code, Mapped
Microphone complete with 3 prong plug and socket and 25 feet of cable List Price \$29.50



MODEL QOM

Same features as QO except:

- Attractive "telephone" black molded plastic case with satin chrome trim.
- Case material provides protection against electric shock.

Net Wt., 1 lb. 7 oz. Shipping Wt., 3 lbs. Code, Moquom.
Microphone complete with 3 prong plug and socket and 25 feet of cable List Price \$27.50



MODEL US ULTRA SENSITIVE

- Very high output level with good fidelity (-44 db.*), approximately 1/4 volt for close speaking.
- Protection against electric shock provided by non-metallic case.
- Especially designed for mobile transmitters and for communications work where highest sensitivity is desired.
- Minimum price for maximum number of features.
- Professional appearance; light and rugged.
- Molded plastic case of pleasing grey finish.
- Not affected by wind.
- Moderately directional.
- Directly attachable to standard (5/8"-27) fittings.

Net Wt., 10 oz. Shipping Wt., 2 lbs. Code, Muspo.
Microphone complete with 7 feet of cable List Price \$17.50

NEW "Quality With Output" MICROPHONE MODEL QO



MODEL QO

- A design of beautiful simplicity; satin chrome spherical case pioneered and popularized by Brush; particularly suitable for better night clubs and ballrooms where fine quality is desired.
- Recently developed compensated diaphragm-crystal cartridge.
- Fidelity of response—30 to 9,000 c.p.s. Output sustained in the lower register without booming for close speaking. Fullness of tone combined with brilliancy, for speech and music.
- Exceedingly high output level (-54 db.*).
- Distinctive new Brush swivel adds utility and attractiveness.
- Eminently satisfactory for outdoor use; not responsive to wind disturbances.
- Special "floating cartridge" design assuring freedom from mechanical shock.

Net Wt., 1 lb. 6 oz. Shipping Wt., 4 lbs. Code, Moque
Microphone complete with 3 prong plug and socket and 25 feet of cable List Price \$27.50

MODEL BR2S SOUND CELL TYPE



- The first commercially available spherical microphone, introduced by Brush and accepted the world over.
- New "floating sound cell" assembly, in satin chrome grille type case.
- Improved method of case assembly eliminating use of screws.
- Typical sound cell fidelity of response.
- Output level -66 db.*
- Thousands in use as standard equipment for sound measurement where precision response is of utmost importance.
- Ideal for operation under adverse wind conditions.
- Small size and grille type case affect the sound field to a minimum degree and make it especially adaptable for close speaking.

Net Wt., 7 oz. Shipping Wt., 2 lbs. Code, Maple
Microphone complete with plug and socket List Price \$29.50

MODEL BL-1 SOUND CELL TYPE



- Wide acceptance as an efficient lapel microphone.
- Unusually small and light weight.
- Removal of lapel clip makes it useful as a compact hand microphone.
- Sound cell construction with corresponding type of response.
- Soft rubber covering adding to its inherent ruggedness.

Net Wt., 8 oz. Shipping Wt., 2 lbs. Code, Maize.
Microphone complete with 25 feet of cable List Price \$25.00

BRUSH "High Fidelity" MICROPHONES SOUND CELL TYPE

● The Brush Development Company manufactures a standard line of high fidelity sound cell microphones for exacting precision applications in sound level measurements, broadcasting and fine recording. List prices \$65.00 and \$75.00. Complete technical data furnished on request.

Prices subject to change without notice.

* Zero reference 1 volt per dyne per sq. cm. Complete technical data available on request.

BRUSH *Crystal Products*



MODEL HL

- Suitable for communications.
- Output level —48 db.*
- High crystal capacity permits long cable.
- Flexible arm for convenient adjustment of position.
- Moderately directional.

Microphone complete with 6 inch arm and 7 feet of cable
List Price \$22.50

Net Wt., 1 lb. 6 oz. Shipping Wt. 2 lbs. Code, Milac.

Microphone complete with 12 inch arm and 7 feet of cable
List Price \$23.30

Net Wt. 1 lb. 12 oz. Shipping Wt., 3 lbs. Code, Milla.



"VIBROMIKE"

Model VM-1 Contact Microphone

- Extreme sensitivity with a minimum of amplification, responding only to direct contact vibration.
- Unusually small in size, only 7/8" x 3/4" x 5/8".
- Broad field of application—musical instruments, detective work, etc.
- Enclosed in soft rubber case adding to its inherent ruggedness.
- Easily installed.

Microphone complete with mounting clamp and 25 feet of cable List Price \$17.50
Net Wt. 6 oz. Shipping Wt. 2 lbs. Code, Musio.

CABLE

Brush cable fulfills the most exacting requirements of low capacity, low hum pickup, high insulation resistance. The No. 8951 Neoprene covered cable is particularly resistant to oil and weather.

RUBBER COVERED SHIELDED CABLE

No.	Code	Wt. 100 ft.	O.D.	Appr. cap. per ft. btn. cond.	No. of cond.	List Price
1255A	Cabbe	3 lb. 9 oz.	1/4"	20 mmf.	2	\$.13 ft.
8849	Caror	1 lb. 8 oz.	3/32"	40 mmf.	1	.06 ft.
8951	Cacer	3 lb. 2 oz.	1/4"	25 mmf.	1	.09 ft.
8951 Neoprene	Cacoil	3 lb. 12 oz.	1/4"	25 mmf.	1	.10 ft.

Prices shown are list prices and are subject to usual trade discounts.

Quantity quotations available upon request.

Specifications such as capacity and outside diameter (O.D.) may be changed without notice, from time to time. It is the Brush policy to offer the best available cable at all times.

Prices subject to change without notice.

* Zero reference 1 volt per dyne per sq. cm. Complete technical data available on request.

MICROPHONE STANDS

Floor Stand — Model F-66

- Cable completely enclosed from microphone to base.
- Entirely new 12" extension arm with swivel lock. Arm rotates 180 degrees varying height 4'-0" to 5'-6".
- Greater freedom to performer afforded by extension arm.
- Terminal strip and cable outlet in base of stand.
- Satin chrome finish with modernistic grey crackle base of exceptional weight and stability.

Complete stand

List Price \$15.00

Net Wt., 13 lbs. 14 oz. Shipping Wt., 20 lbs. Code, Armo.

Floor Stand — Model F-70

- Minimum height 3'-0", maximum extension 5'-10".
- Positive grip adjustment.
- Satin chrome finish with heavy grey crackle base.

Complete stand

List Price \$12.50

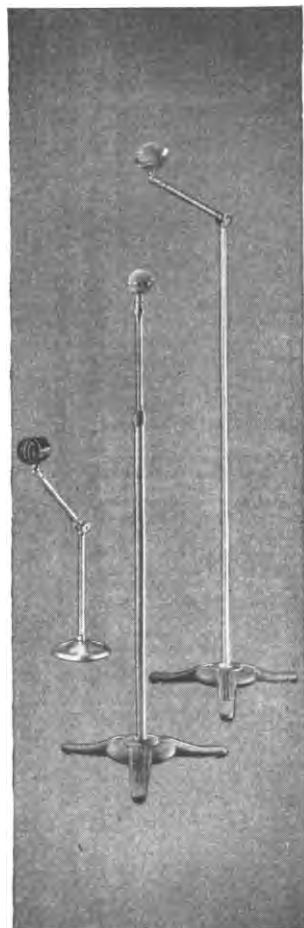
Net Wt., 14 lbs. 5 oz. Shipping Wt., 22 lbs. Code, Flore.

Desk and Banquet — D-26

- Cable completely enclosed from microphone to base.
- 12" extension arm with convenient swivel lock, 180 degree rotation; minimum height 7", maximum 2'-2".
- Terminal strip and cable outlet in base of stand.
- Entire stand finished in satin chrome.

Complete stand List Price \$9.50

Net Wt., 4 lbs. 4 oz. Shipping Wt., 7 lbs. Code, Banko



OTHER BRUSH PRODUCTS

In addition to microphones, the Brush Development Company also manufactures a complete line of headphones; hearing aid receivers and microphone cartridges for manufacturers; high quality phonograph pickups and disc record cutters, magnetic steel tape recorders; oscilloscopes for sound-on-film recording and laboratory measurements, vibration pickups for industrial and other applications and similar and associated equipment.

BRUSH

Phonograph Pick-Ups

THE BRUSH DEVELOPMENT COMPANY presents two light weight crystal phonograph pickups, the PL-50 High Fidelity, and the PL-20. These pickups are the result of extended research and development, and establish new standards of performance in (a) quality of sound production, (b) the virtual elimination of record wear, (c) playback of instantaneous recordings without damage to soft recording materials, (d) the use of a permanent stylus, and (e) their adaptability both to the ordinary "constant velocity" recording and to "constant amplitude" recording, with all that this latter method holds for the future in greatly increased quality and playing time on a disc record of given size.

The art of recording and playback has been subject to marked limitations in record cutters, and in the ability of pickups to reproduce the record. Due to the large inertia of the vibrating systems of most pickups, they have been unable to reproduce satisfactorily frequencies above 5,000 cycles. Particularly in orchestral music it is largely the higher harmonics which give to the instrumental sounds their distinguishing quality or timbre and contribute fidelity and brilliance.

By reason of an extraordinary reduction in the inertia of the vibratory mechanism, the new Brush pickups greatly extend the range of sound frequencies which may be satisfactorily reproduced. This reduction in inertia, combined with the use of a polished sapphire permanent stylus and much reduced stylus pressure, serves to reduce record wear and background noise. The new Brush pickups give not only the best results with the records of today, but will also reproduce the finest recordings of tomorrow.

The following description of construction will make clear how the above results have been achieved.

THE CARTRIDGES used in both the PL-50 and PL-20 pickups contain a pressure-operated voltage generator in the form of a crystal torsion element. The crystal is connected to a sapphire stylus through a beryllium copper transmission wire. The record undulations oscillate the stylus, stressing the transmission wire in torque, thus transmitting the groove undulations to the crystal element as a varying pressure. The crystal element generates a voltage, the amplitude and wave form of which are the counterpart of the groove undulations.



The moment of inertia of the complete vibratory system is a fraction of that found in conventional pickups. The polished sapphire stylus, mounted in a very short light weight nickel tube, presents a minimum of mass, weighing approximately one-fiftieth as much as a conventional chromium needle with its chuck. The transmission wire moves only in torque, and the pressure-operated crystal generator is subjected only to the slightest movement.

THE PICKUP ARM consists of three main parts: the base; the horizontally moving rear part of the arm which rides upon the base on ball bearings and which supports the forward part of the arm; and the forward arm, or arm proper, which moves vertically on special bearings in the horizontally moving rear part of the arm. The rear part of the assembly is made of metal and is heavy in order to fix the vibration period of the assembly below the audible range. The forward part of the arm is of molded bakelite designed to have a low moment of inertia in its vertical motion. This bakelite arm is counter balanced by a concealed weight and spring, to reduce stylus pressure.

The arm length from the horizontal pivoting point in the base to the stylus point is 12" (13-7/16" to outside of base, base radius 1-7/16"). The cartridge is offset at an angle of 23 degrees which reduces tracking error to approximately 1 degree on a 16" record, when the pickup is so mounted that the stylus extends 3/8" beyond the center of the turntable.

The arm may be adjusted for turntable heights from 3/4" to 1 1/4" by means of set screw. Spacers (supplied on request) may be used to further increase the height as much as desired.

Each pickup may be used with either pushpull or single channel amplifier. The output from the

cartridge is virtually independent of temperature, when connected to a high impedance circuit (1/2 megohm or higher). Each pickup includes an equalizer which provides proper termination when reproducing commercial "constant velocity" records. Connection from amplifier to pickup is made by means of a shielded cable to be soldered to a terminal strip located in the base of the pickup.

PL-50 PICKUP

The PL-50 pickup is designed for exceptionally low stylus pressure (20 grams) which makes it particularly adaptable to wax and soft nitrocellulose materials as well as hard pressings. This pickup may be used for several playings on wax masters without damage to the master. Nitrocellulose materials can be reproduced hundreds of times without measurable wear, and a 10,000 cycle cut can be tracked more than 100 times without loss in output. There is no measurable wear of hard pressings.

With reasonable care the stylus may be expected to give a long and satisfactory life. Tests have shown that more than 1,000 operating hours (15,000 playings of 12" discs) will not cause appreciable stylus wear.

The PL-50 pickup delivers approximately .26 volt (open circuit) per .001" stylus displacement within plus or minus 1.5 db. from 30 to 10,000 c. p. s. The response is very smooth with no sudden peaks or hollows. The pickup is used without equalization for "constant amplitude" records. For reproducing commercial "constant velocity" records corrective equalizers are furnished, with which pickup delivers approximately .015 volt for a stylus displacement of .001" at 400 c. p. s. The total harmonic distortion of the pickup is a fraction of one per cent.

The forward arm of the PL-50 pickup is of black molded plastic material, and the base has a chrome finish.

List Price: PL-50 pickup complete with No. 3723 equalizer (and base mounting spacers if required) \$75.00

Net Weight: 2 lbs. 4 oz. Shipping Weight 8 lbs. Code: Playe.

Copyright by U. C. P., Inc.

PL-20 PICKUP

The PL-20 pickup provides a considerably higher output than the PL-50 pickup, with a stiffer stylus assembly and a higher stylus pressure. It is adjusted at the factory for 30 grams (approximately one ounce) pressure.

This stylus pressure on commercial pressings causes no measurable record wear in from 1,000 to 3,000 playings, depending upon the disc material.

The permanent sapphire stylus used with the PL-20 pickup has been tested for a period of 250 hours of continuous use on commercial shellac pressings with no measurable stylus wear. The life of the sapphire stylus is probably well in excess of 250 hours (5,000 playings of 10" discs).

The PL-20 pickup delivers approximately 1.7 volts (open circuit) per .001" stylus displacement within plus or minus 2.5 db. from 40 to 6,000 cycles with a slightly rising characteristic from 6,000 to 10,000 c. p. s.

No equalization is necessary for "constant amplitude" records. When reproducing commercial "constant velocity" records using the corrective equalizer furnished, the PL-20 pickup delivers approximately 0.4 volts for a stylus displacement of .001" at 400 c. p. s.

The forward arm of the PL-20 pickup is a taupe colored molded plastic material, and the base has an antique bronze finish.

List Price: PL-20 pickup complete with No. 3761-B equalizer (and base mounting spacers if required)..... \$37.50

Net Weight: 2 lbs. 4 oz. Shipping Weight: 8 lbs. Code: Playe.

BRUSH *Crystal Products*

PL-25 PICKUP

In addition to the PL-20 and PL-50 Pickups, the Brush Development Company presents a new PL-25 Pickup designed for use where mounting space does not permit the use of either PL-20 or PL-50 Pickup.

The PL-25 measures 10½ inches long overall compared with 14 inches overall for the PL-20 and PL-50 Pickups. For this reason, the PL-25 is limited to turntables or records of no greater diameter than 12 inches.



The PL-25 Pickup is practically identical in performance to the PL-20 Pickup. It employs the same crystal cartridge with permanent sapphire stylus, and the stylus pressure is adjusted to the same pressure, i.e. 30 grams, or approximately ½ oz.

As in the case of the PL-20 Pickup, the low stylus pressure of the PL-25 Pickup causes no measurable record wear in from 1,000 to 3,000 playings, depending on disc materials.

The permanent sapphire stylus used with PL-25 Pickup shows no measurable stylus wear over a period

of 250 hours (5,000 playings of 10" discs) of continuous use on commercial shellac pressings. The life of the stylus is probably well in excess of this.

The PL-25 Pickup delivers approximately 1.7 volts (open circuit) per .001" stylus displacement within ±2.5 db. from 50 to 6,000 c.p.s. with a slightly rising characteristic from 6,000 to 10,000 c.p.s.

No equalization is necessary with this pickup for reproducing "constant amplitude" records. When reproducing commercial "constant velocity" records a corrective equalizer is necessary for best quality results. This is **not** supplied with the PL-25 Pickup but may be constructed from available component parts or ordered separately from the Brush Development Company, as described below. Technical Bulletin No. 261, which gives detailed information on equalization and the use of Brush Pickups, is available on request.

The arm of the PL-25 Pickup is furnished in a mottled brown plastic material, and the base and counterweight in antique bronze finish.

	PRICE	WEIGHT	CODE
PL-25 Pickup (no equalization included)	\$27.50 (list)	1 lb. 4 oz. (net) 7 lbs. (shpg.)	PLAIY
No. 3761-B High Impedance Equalizer	1.00 (net)	3 oz. (net) 1 lb. (shpg.)	HIPED
No. 3761-A Low Impedance Equalizer (50 or 200 ohms)	3.50 (net)	5 oz. (net) 1 lb. (shpg.)	LOPED

RC-20 CUTTER

The Brush Development Company presents a new low price crystal record cutter designed for high quality recording in the home, school or studio.

This cutter will engrave disc records of the lateral type in almost any of the hard or soft recording materials, such as nitrocellulose, vinylite, etc. It is actuated by a four-ply crystal element vicously mounted within a small metal case.

The simplicity and compactness of its design permit its use, when provided with suitable mounting, in practically all types of commercial transcription equipment. Because of its high operating efficiency, a driving amplifier of relatively low power output may be used (approximately 3 Watts).

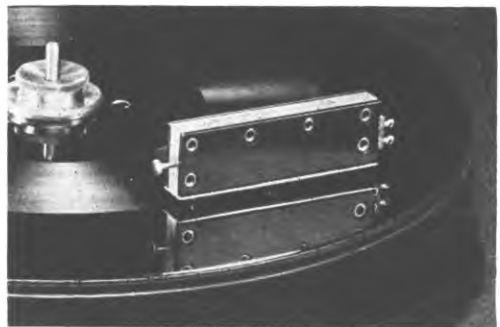
The frequency response characteristic of the RC-20 Cutter is flat within ±3 db. from 50 to 9,000 c.p.s. Because of the inherent stiffness of the crystal element, the amplitude and frequency response are almost completely unaffected by depth of cut and variations in hardness of recording materials.

Since the cutter is of the crystal actuated type, the stylus displacement (amplitude) is proportional to the voltage impressed across its terminals over practically its entire frequency range.

For this reason, "constant amplitude" records can be cut without any form of equalization. When desired, commercial "constant velocity" records may be cut,

merely through selection of proper coupling circuit to the driving amplifier.

Technical Bulletin No. 291 will be furnished on request. This bulletin gives practical information with diagrams and drawings of electrical circuits and me-



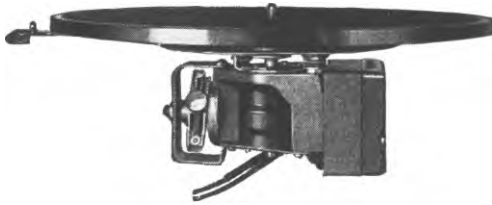
chanical mountings recommended for best results. Data is given from which cutter circuits may be adjusted for various frequency response characteristics to meet individual requirements or preferences.

	PRICE	WEIGHT	CODE
RC-20 Cutter (less stylus)	\$20.00 (list)	4 oz. (net) 2 lb. (shpg.)	RECO
Stylus 3629	3.00 (net)		

GENERAL INDUSTRIES

Phonograph Motors

Model "A" 78 R.P.M.—Model "B" 33 1/2 R.P.M.



GREEN FLYER

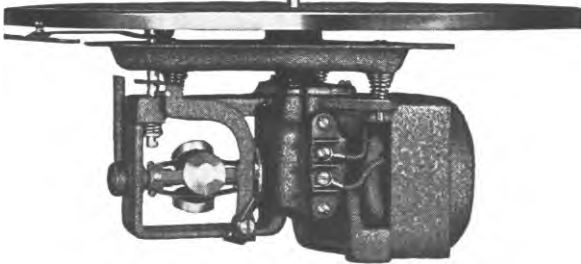
Governor Controlled Electric Motor

Furnished complete mounted on plate ready for installation. Open construction, allowing perfect ventilation. Absolute uniformity of speed under severe variation of voltage and record drag. Long over-size self-lubricating bearing. Silent Spiral-Cut Gears made from Laminated Bakelite. Will not overheat in closed cases and cabinets.

Finished in black enamel. Includes 10" Turntable, Dial and Pointer Speed Regulator. Automatic Stop is optional.
Size: Length—6 3/8", Width—3 5/8", Depth—3 1/8" from mounting plate to bottom.

Model A—78 R.P.M., 110 Volts A.C., 60 Cycles.....	List Price \$13.20	Net \$7.92
Model B—33 1/2 R.P.M., 110 Volts A.C., 60 Cycles.....	List Price \$14.20	Net 8.52

Model "E" 78 R.P.M.—Model "F" 33 1/2 R.P.M.



BLUE FLYER MOTORS

Very powerful, single speed, governor controlled A.C., induction type motors with extra rugged construction for hard usage. Excellent speed regulation, will not overheat, gears running in a bath of oil in the sealed housing. Oversize lubricator provided for governor brake. Supplied for all A.C. voltages and cycles (Not available for D.C.).

Furnished with mounting plate; 10" or 12" turntable; dial and pointer speed regulator; metal and rubber turntable drive washers; mounting screws, nuts and washers. Length 7 1/8"; width 3 1/4"; depth, 4 3/8" from mounting plate to bottom.

Model E—78 R.P.M. with 10" turntable, 110 volts A.C., 60 cycles.....	List Price \$16.00	Net \$ 9.60
Model F—Same as above except 33 1/2 R.P.M.	List Price \$17.00	Net 10.20

GREEN FLYER ELECTRIC MOTOR

Two-speed Governor Controlled

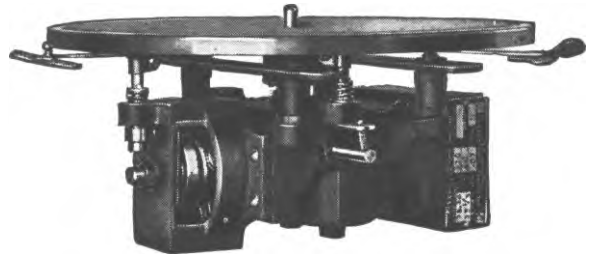
Specially designed for playing records recorded at 33 1/2 R.P.M. and 78 R.P.M. The shift from one speed to the other is accomplished by simply moving a lever. All gears are completely enclosed and run in oil. Silent spiral-cut gears made from Laminated Bakelite. Long over-size self-lubricating bearings.

Furnished complete with 10" Turntable, Dial and Pointer Speed Regulator, Speed Change Lever and Escutcheon Plate.

Size: Length—8 1/8", Width—5 1/8", Depth—3 3/4" from mounting strap to bottom.

Model D—110 Volts A.C., 60 Cycles.....	List Price \$17.60	Net \$10.56
Model H—110 Volts A.C., 60 Cycles; same as Model "D" except Field 1/2" longer—recommended for 16" records.....	List Price \$19.15	Net 11.49

Model "D"—33 1/2 and 78 R.P.M.



ELECTRIC PHONOGRAPH MOTOR

With Fixed Governing Arrangement

An excellent Motor for portable and table model instruments. Very compact. Ample power for playing 10" and 12" records. Governor controlled. Cover enclosed gears. Absolute uniformity of speed. Silent Spiral Cut Gears made from Laminated Bakelite. Will not overheat in closed cases or cabinets. Includes 10" turntable and screw type speed regulator.
Size: Length—5 1/8", Width—3 5/8", Depth of Field—2 1/8".

Model V—78 R.P.M., 110 Volts A.C., 60 Cycles.....	List Price \$11.50	Net \$6.90
Model O—33 1/2 R.P.M., 110 Volts A.C., 60 Cycles.....	List Price \$12.50	Net 7.50



SIX VOLT D.C. MOTORS

Model S—78 R.P.M., with 10" turntable, dial and pointer speed regulator.....	List Price \$19.95	Net \$11.97
Model T—33 1/2 R.P.M., with 10" turntable, dial and pointer speed regulator.....	List Price \$20.95	Net 12.57
Model R—Two-Speed, 78 and 33 1/2 R.P.M., with 10" turntable, dial and pointer speed regulator, speed change lever and escutcheon plate.....	List Price \$24.85	Net 14.91

The 6 Volt D.C. motors will also operate on 9 1/2 Volts A.C.

AUTOMATIC STOP SWITCHES

No. 3988—For use with 8", 9", 10" and 12" turntables.....	List Price \$1.50	Net \$0.90
No. 12670—For use with 8", 9" and 10" turntables.....	List Price \$1.00	Net .60

On All Motors

Add for Weighted 12" Turntable.....	List Price \$3.00	Net 1.80
Add for Standard 12" Turntable.....	List Price .50	Net .30

UNIVERSAL PHONOGRAPH MOTORS

Model G—78 R.P.M., Single-Speed Universal Motor, 110 Volts A.C. and D.C., 50-60 Cycles, with 10" turntable, dial and pointer speed regulator.....	List Price \$19.95	Net \$11.97
Model J—33 1/2 R.P.M., Single-Speed Universal Motor, 110 Volts A.C. and D.C., 50-60 Cycles, with 10" turntable, dial and pointer speed regulator.....	List Price \$20.95	Net 12.57
Model N—Two-Speed, 78 and 33 1/2 R.P.M. Universal Motor, 110 Volts A.C. and D.C., 50-60 Cycles, with 10" turntable, dial and pointer speed regulator, speed change lever and escutcheon plate.....	List Price \$22.80	Net 13.68

Universal motors have the A.C.-D.C. Switch assembled.

WHEN ORDERING MODELS A, B, E, F, D and H for
 110 Volts A.C., 25 cycles add..... each \$1.50 list
 110 Volts A.C., 42 cycles add..... each 1.50 list
 220 Volts A.C., 50 cycles add..... each .75 list

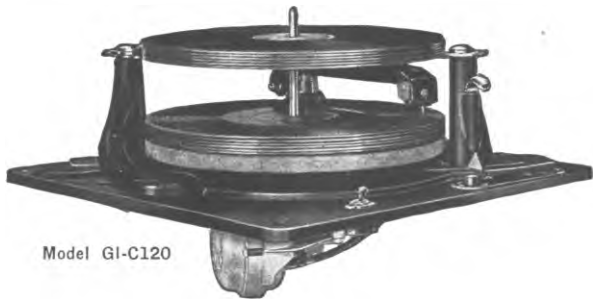
(Models V and O not furnished for 25 and 42 cycles)

See Reverse Side for New Self-Starting, Constant Speed Motors and Heavy Duty Recording Motors

GENERAL INDUSTRIES

Record Changers & Recording Assemblies

A PRODUCT OF GENERAL INDUSTRIES CO.



Model GI-C120

AUTOMATIC RECORD CHANGER

Plays twelve 10" or ten 12" records automatically. One lever to move when changing from one size record to another or to set for manual operation. With lever in extreme position all sizes of records can be removed from the turntable without interference. In manual position, tripping mechanism is inoperative. Non-jamming record handling fingers which do not extend past record lead-in space. Pressing reject button drops the first record onto the turntable and automatically positions the pickup on the record. Records may be rejected instantly. Handles records with either run-in or oscillating trip grooves. Means provided for guiding pickup needle into the playing grooves on records without lead-in grooves. Pickup arm supported at all times when not resting on record. Sturdy base plate with formed down edges. Changing mechanism is positive and quiet in operation.

Record changer assembly includes high quality true tangent tracking crystal pickup; cycling switch and on and off switch. Base plate 14" x 14" x 3/8", height above lower edge of base plate 5 1/4", depth below lower edge of base plate 3 1/2".

NOTE: Supplied for all commercial voltages and cycles.

Model	RPM	Current	List	Net
GI-C120	78	110V AC 60c	\$58.00	\$34.80



Model GI-R70

HOME RECORDING AND PHONOGRAPH ASSEMBLY

Cuts records up to 10" in diameter. Plays records up to 12" in diameter. Simple cutter feed mechanism requires merely lowering the cutter arm over the record disc to start the recording operation. Feed screw automatically engages when cutter is placed on record and disengages when cutting arm is raised or placed on rest. Drive for feed screw is through an enclosed worm and gear. Entire feed screw mechanism is mounted underneath the base plate. Convenient depth of cut adjustment on top of cutting arm. Retractable record driving pin in turntable permits the playing of standard records without adjustment.

Equipped with a powerful induction motor of special design with internal rim drive to turntable. All elements of drive are positively aligned in one plane. Motor is rubber insulated from both base plate and turntable for quiet operation.

Assembly includes motor; 10" weighted turntable; cutting mechanism; high impedance crystal playback pickup; cutter arm rest; pickup rest; base plate with formed down edges—15" wide, 10" front to back.

NOTE: Supplied for 60 or 50 cycles.

Model	RPM	Current	List	Net
GI-R70	78	110V AC 60c	\$45.00	\$27.00

HEAVY DUTY RECORDING MOTORS

Direct drive, governor controlled induction motors with screw type speed regulator. Have retractable record drive pin in turntable permitting the playing of standard records without adjustment.

Furnished with mounting plate; 10" or 12" weighted turntable; mounting screws, nuts and washers. Depth from mounting plate to bottom: 3 3/8".

NOTE: Supplied for 60 or 50 cycles only.

Model	RPM	Current	List	Net
RG	78	110V AC 60c	\$25.50	\$15.30
RG-3	33 1/3	110V AC 60c	26.50	15.90

Above prices include 10" weighted T.T. For 12" weighted T.T. add \$2.00 each list.

"X" SERIES, SELF STARTING, CONSTANT SPEED ELECTRIC PHONOGRAPH MOTORS

LOW IN COST, LIGHT IN WEIGHT, COMPACT IN DESIGN



Model CX



Model KX



Model RX



Model LX

All "X" series motors are even in speed and have ample power to play 10" and 12" records. Fan cooled and designed to comply with Underwriters' Laboratories' requirements, these motors can be installed in small cases without overheating. Careful design and precise manufacturing insure quietness of operation.

MODEL "CX" AND "KX" GEAR DRIVE MOTORS

Fully enclosed with silent helical cut gears running in a bath of oil in the sealed housing. Patented metal and rubber turntable drive. Model "CX" has a combination rubber turntable drive sleeve and record centering tip which insures both mechanical and electrical insulation between turntable and motor.

Furnished complete with round mounting plate; 8", 9", 10" or 12" turntable; metal and rubber turntable drive; mounting screws, nuts and washers. Depth from mounting plate to bottom 3 3/8".

NOTE: Supplied for all AC voltages and cycles.

Model	RPM	Current	List	Net
KX	78	110V AC 60c	\$7.35	\$4.41
KX-3	33 1/3	110V AC 60c	8.35	5.01
CX	78	110V AC 60c	8.80	5.28
CX-3	33 1/3	110V AC 60c	9.80	5.88

The above prices include 8" turntable. For 9" T.T. add 15c list ea., 10" T.T. add 25c list ea., 12" T.T. add 75c list ea.

MODEL "RX" AND "LX" RIM DRIVE MOTORS

Rubber insulated from both mounting plate and turntable for quiet operation. Turntable shaft revolves with the turntable. Driving pulley, idler wheel and turntable aligned in one plane. Motor securely attached to mounting plate, simplifying shipping and installation. Oilless bronze bearings throughout. Model "RX" is a 4 pole slow speed motor. Model "LX" is a 2 pole high speed motor.

Furnished complete with mounting plate and turntable. (RX furnished with 8", 9" or 10" T.T., LX with 8" or 9" T.T.) Depth from mounting plate to bottom: RX—2 3/8"; LX—2".

NOTE: "RX" supplied for 60, 50 or 25 cycles; "LX" for 60 or 50 cycles.

Model	RPM	Current	List	Net
RX	78	110V AC 60c	\$6.10	\$3.66
LX	78	110V AC 60c	4.50	2.70

The above prices include 8" T.T. For 9" T.T. add 15c list ea.; 10" T.T. (RX only) add 25c list ea. Turntable holding clip is optional.....List, 10c ea.

American MICROPHONES

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VR2 DYNAMIC MICROPHONE

A Microphone with a NEW IDEA and a NEW USEFULNESS

For the first time, the many desirable characteristics found only in several different types of microphones have been combined in a single unit. The VR2 has an easily accessible external adjustment of the most important acoustical reactors in the dynamic microphone. A smooth change from a communication-type response, with a cutoff below 500 c. p. s., through a flat response to an augmented bass, attained by a simple, positive adjustment.

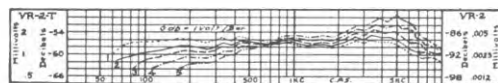
The response adjustment on the VR2 has a very broad effect and does not introduce narrow peaks. It is different from anything previously introduced.

Complete with 12½' cable and plug at microphone providing balanced line. Dull chrome finish. Net wt. less cable, 15 ozs. Hgt. 4". Greatest diameter 3".

VR2T Dynamic (38,000 ohms), Code: VARIT. List **\$35.00**

Available on order in 200 or 500 ohms.....List **\$35.00**
(Complete with 12½' cable)

VR2 Dynamic (30-50 ohms), Code: VARIA.....List **\$32.50**
(Complete with 12½' cable)



The above graph illustrates the average response characteristics for the various settings as indicated on the scale.

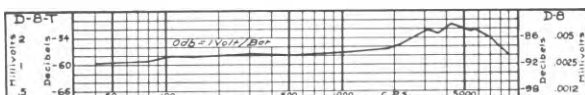
D8T DYNAMIC MICROPHONE



THE D8T DYNAMIC MICROPHONE has been carefully designed to have a consistent, well-balanced response. It is exceptionally rugged and assures the user of trouble-free service over a long period of time.

The D8T is particularly useful for all types of public address installations, orchestra pick-up, as well as solo work and straight announcing.

The D8T is 3¼" long, 2" in diameter, weighs only 13 ozs. A swivel mounting permits either nondirectional or semidirectional pick-up. Comes complete with 12½' cable and plug at microphone and ⅝" x 27 thread for suspension or stand mounting. Platinum Chrome Finish.



D8T Dynamic (38,000 ohms), Code DATAH...List **\$25.00**

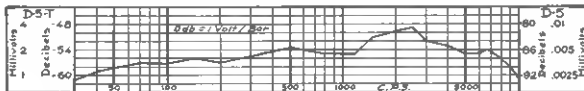
Available on order in 200 or 500 ohms.....List **\$25.00**

D8 Dynamic (30-50 ohms), Code: DATAL.....List **\$22.50**

D5T DYNAMIC MICROPHONE

IN FOURTH YEAR PRODUCTION

THE D5T DYNAMIC MICROPHONE is well known. An excellent, diversified-purpose microphone. The dynamic is the most rugged type microphone and its life of trouble-free operation is indefinite. Being a pressure-operated instrument, the response is unaffected by either a close or distant sound source. The D5T approaches the ideal microphone for general use due to its versatility and dependability. Sensitivity: 52 db below 1 V/bar.

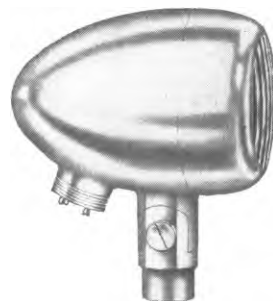


D5T Dynamic, 38,000 ohms, Code: DYHIM.....LIST PRICE **\$32.50**

Available on order in 200 or 500 ohms.....LIST PRICE **\$32.50**

D5 Dynamic, 30-50 ohms, Code: DYLOM.....LIST PRICE **\$27.50**

Moving-Coil, Permanent Magnet Dynamic • Semidirectional • Close or Distant Pick-up • Excellent Frequency Response • Freedom from Wind Noises • High Output, Low or High Impedance • Immune to Temperature Changes • Minimum Feed-Back (Flat Response) • Low-Level Mixing • Exceptionally Rugged.



American MICROPHONES

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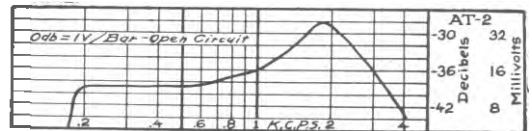
AT2 Specialized COMMUNICATION-TYPE MICROPHONE

THE AT2 CARBON HAND MICROPHONE has been designed for a specific purpose. The response characteristics are such that the greatest efficiency covers the important voice frequencies. Frequencies below 200 c.p.s. and above 3500 c.p.s. do not contribute to intelligibility. The AT2 has a sharp cut off above and below the intelligibility band; therefore equipment used with the Model AT2 will operate at greatly increased efficiency. The graph illustrates the high output of the AT2. For a 10-bar signal the output is -12 db.

As a hand microphone it will pick up efficiently in any position with minimum variance in level. A positive switch, for the operation of a relay and the microphone unit, is built into the case. The beryllium-copper switch blades, with rare metal contacts, wiping action, assure long life. Recommended current 15 ma. and load impedance 100-150 ohms. Four-foot length three-conductor, cloth-covered cable supplied with each microphone. Finish: Natural black plastic. Weight with cable 7 1/2 oz.

AT2 Microphone. Code: ATMIKList Price \$16.50

The case fits the hand comfortably and the convenient thumb switch requires but four ounces of pressure to operate. Prolonged use of the switch does not tire the thumb. The case and insulating parts are molded from an indestructible plastic. All circuits are thoroughly insulated from the hand. A convenient hanger eye is provided.



C6 CRYSTAL MICROPHONE

EXTREME SENSITIVITY. New crystal driving lever, twice as efficient as previously used, produces twice the voltage output with equal sound pressure.

BROADER RESPONSE. Results of new construction include extension of both low and high end.

BASS END IMPROVED. Naturalness insured by improvement in low frequency response.

LONGER LINES. By increasing the voltage output, the cable length may be increased proportionately. In laboratory tests, regular cables 250 feet in length have been used with a net voltage sufficient to operate any standard high gain amplifier.

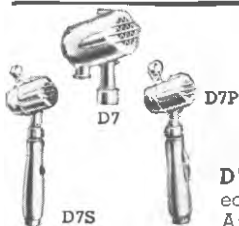
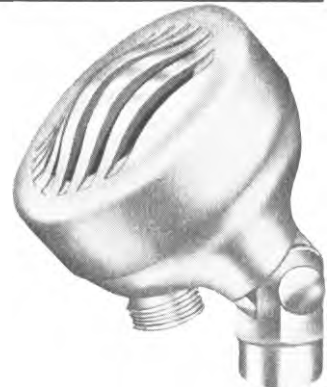
MECHANICAL NOISE REDUCED. Mechanical and stand noise is no longer a factor. The C6 method of crystal mounting reduces mechanical noises by 12 db.

LESS AMPLIFIER AND INDUCED NOISE. The high output of this microphone assures a very desirable signal-to-noise ratio.

SWIVEL HEAD. All angles for semidirectional and nondirectional pick-up are provided by the 5/8" x 27 (standard) mounting connector.

Complete with 7' cable and plug at microphone. Polished chrome finish. Net weight 8 oz. Over-all height 3". Diameter 2 3/8". 5/8x27 thread provided for suspension or stand mounting.

C6 Crystal, Code CESIXLIST PRICE \$16.50



THE "Clipper" DYNAMIC

D7 and D7T MICROPHONES equipped with 12 1/2' R/J cable and Amphenol plug. Chrome finish. 5/8-27 connector. Over-all height, 2 1/2". Diameter, 1 1/2". Net weight, 8 1/2 ozs.

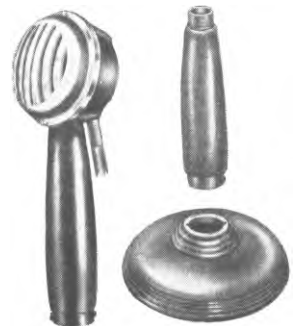
APPLICATIONS: Excellent for communication purposes, airplane use, Marine safety-at-sea installations, police broadcasting, amateur communication, public address, indoor and outdoor installations.

D7T—High Imp., 38,000 or 500 or 200 Ohms;
Code: DISETList Price \$22.50
D7TP (Press-contact Switch),
Code: DIMATList Price \$26.00
D7TS (Slide Switch), Code: DIAHTList Price \$25.00

D7—Low Impedance, 50 Ohms,
Code: DISEVList Price \$20.00
D7P (Press-contact Switch),
Code: DIMARList Price \$23.50
D7S (Slide Switch), Code: DIAHLList Price \$22.50

RC CRYSTAL MICROPHONE

Complete with
**NON-BREAKABLE
PLASTIC STAND
and 7 foot Cable**



RC Crystal Microphone may also be mounted on any stand equipped with standard 5/8" x 27 thread. . . . An excellent microphone for Communication, Public Address or Amateur Radio.

HOME RECORDING OR BROADCASTING
HIGH OUTPUT, GOOD QUALITY

Base easily removed by quarter turn, releasing bayonet lock. Cable replacements accomplished by releasing set screw in back of microphone and pulling gently on spring cable protectorList Price \$9.95

American MICROPHONES

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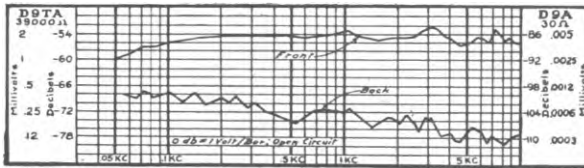
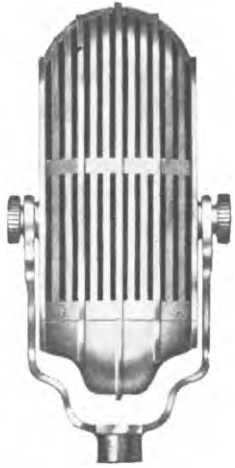
D9A Unidirectional MICROPHONE

GUARANTEED to produce 30% MORE VOLUME (power) than any microphone at twice the list price. UNIDIRECTIONAL, True CARDIOID pattern pickup, frequency response good to 10,000 c. p. s.

Actual Tests are Convincing Arrange for Test with your Jobber

THE D9A DYNAMIC, a pressure-velocity combination microphone, with pick-up from front only, broad frequency response and high output, plus the usual dynamic microphone qualities of ruggedness, immunity to weather conditions, and circuit adaptability, should fill the majority of requirements.

The D9A Microphone is recommended for public address and general sound installations because its energy response field (cardioid of revolution) excludes extraneous pick-up and reduces feed-back by two-thirds. May be used for close talking due to the modified velocity section which also reduces wind noises to a minimum.



Net weight, 2 1/2 lbs. Packed weight, 4 lbs. Height, 7 1/2"; depth, 2 1/4"; breadth, 2 1/2". Standard 5/8-27 thread provided for suspension or stand mounting. Finish: Satin Chrome.

25' Shielded Rubber-jacketed Cable Supplied with each Microphone.

D9A, Low Imp. (50 ohms).
Code: LOWEL List \$35.00

D9AT, High Imp. (38,000 ohms).
Code: HIWEL List \$37.50
Available on Order in 200 or 500 ohms List \$37.50

The above graph illustrates the average response characteristics for the D9A and D9AT. Voltage output levels, for 1 bar sound pressure (1 bar=1 dyne per sq. cm.) of the high and low impedance models. For 10 bar signal the output will be 20 db. higher.

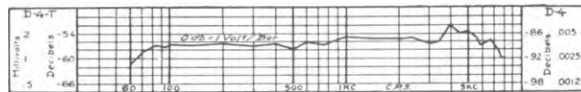
D4T DYNAMIC MICROPHONE

A QUALITY, LOW-PRICED, MOVING-COIL MICROPHONE. For general use where clear speech and natural music reproduction is required. This new AMERICAN microphone is a very efficient instrument, having a broad range, from 60 to 7500 c.p.s., and high output of -56 db (0 db=1 v/bar). The utility value lies not only in the quality and type of response but also in mechanical features, such as light weight (approximately 10 1/2 oz.), a full 180° vertical angular setting, and positive friction lock at the swivel.

The **D4T**, high impedance, is equipped with a single-contact, shielded plug. The 50, 200 and 500 ohm models are equipped with a two-conductor plug and have a balanced line out.

The **D4** model is of voice-coil impedance, approximately 30 ohms. Lines up to several hundred feet may be used on all models except the high impedance, where line should be restricted.

The complete assembly includes 12 1/2 feet of shielded, rubber-covered cable and shielded plug. Finished in platinum chrome. Standard mounting, 5/8" x 27 thread.



D4T Dynamic (38,000 ohms) Code: DFORT..... LIST PRICE \$20.00

Available on order in 200 or 500 ohms..... LIST PRICE \$20.00

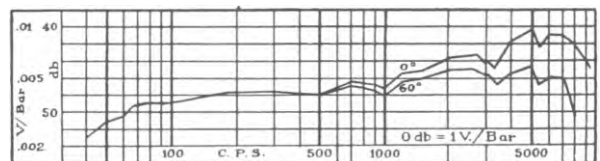
D4 Dynamic (30-50 ohms) Code: DEFOR..... LIST PRICE \$18.00

D6T DYNAMIC MICROPHONE

Ideal for general public address including stage sound-reinforcement, both permanent and portable installations. It is entirely suitable for playground and athletic field direction, police and amateur broadcasting, and recording.

Net weight, 1 3/4 lbs. Packed weight, 2 lbs. Height, 3 3/4", diameter 2 1/2". Standard 5/8-27 thread provided for suspension or stand mounting. Finish: Polished Chrome. 12 1/2' Shielded Rubber-jacketed Cable supplied with each microphone.

characteristics may be had by varying the angle of the microphone to the source of sound. For nondirectional horizontal pick-up, the response is substantially flat.



D6T Dynamic (38,000 ohms) Code: DIXIT..... List \$27.50

Available on order in 200 or 500 ohms..... List \$27.50

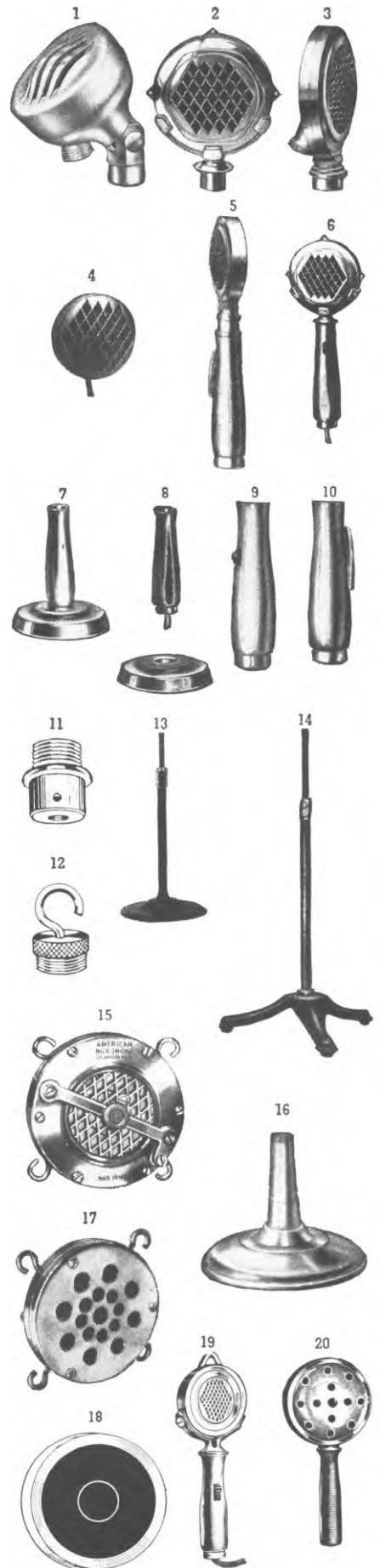
D6 Dynamic (30-50 ohms) Code: DIXIE..... List \$25.00



Typical field calibration for the D6T. A choice of frequency

American MICROPHONES

1. **C6 CRYSTAL MICROPHONE.** The best buy in a crystal microphone. New crystal driving lever, twice as efficient as previously used, produces twice the voltage output with equal sound pressure. Long cables, 250 feet or longer, may be used with this microphone. The increased output voltage assures only slight proportional losses in cable lengths. Provided with plug at microphone and mounting swivel with standard $\frac{3}{8}$ "x 27 thread. Chrome finish. Net weight 8 ozs. Complete with 7' cable and microphone plug. Accessories 7, 8, 9, 10, 11, 12, 13, 14, and 16 available for use with this model.
C6 Crystal Microphone. Code: CESIX.....List Price \$16.50
2. **AG CRYSTAL MICROPHONE.** Preferred by crystal buyers for four years. Communication-type response. Equipped with mounting yoke, providing rear or through cable outlet. Standard $\frac{3}{8}$ "x 27 thread. Accessories 7, 8, 9, 10, 11, 12, 13, 14, and 16 available for use with this microphone.
AG Crystal Microphone. Code: AGTAL.....List Price \$22.50
3. **B9 CRYSTAL MICROPHONE.** Semi-directional. Recommended for public address. Chrome finish. $\frac{3}{8}$ "x 27 thread. Complete with 8' cable and plug at microphone. Accessories 7, 8, 9, 10, 11, 12, 13, 14, and 16 available for use with this microphone. Code: BENIN.....List Price \$22.50
4. **CL2 CRYSTAL LAPEL MICROPHONE.** Built especially for lapel use. Maximum sensitivity in voice range. $2\frac{1}{2}$ " diameter. Weight $1\frac{1}{2}$ ozs. Complete with 25' cloth-covered, shielded cable and clip for attaching to clothing.
CL2 Crystal Lapel Microphone. Code: LATAL.....List Price \$25.00
5. The B9 as a hand microphone. Chrome finish. Available with two types of switches. 8' cord. B9P with press-contact switch in handle, and B9S with slide switch in handle.
B9P Crystal Hand Microphone. Code: BECON.....List Price \$26.00
B9S Crystal Hand Microphone. Code: BEHAN.....List Price \$25.00
6. The AG as a hand microphone. Chrome finish. Available with two types of switches. 8' cord. AH using slide switch, and AGP using press-contact switch.
AH Crystal Hand Microphone. Code: AHTAL.....List Price \$25.00
AGP Crystal Hand Microphone. Code: AGPAH.....List Price \$26.00
7. **AG DESK STAND.** Consists of upright (handle) and base. Chrome finish. No adapter necessary when used with B9, AG, or EL-4. AG Adapter necessary for connection to other microphones. Code: AGESK.....List Price \$2.50
8. **AG HANDLE.** Upright of AG Stand. Easily attached to AG Base by half turn, bayonet lock. Chrome finish. Code: AGHAN.....List Price \$1.50
9. **AH HANDLE.** Upright of AG Stand with slide switch. Chrome finish.
Code: SHAND.....List Price \$2.50
10. **DH HANDLE.** Upright of AG Stand with press-contact switch. Chrome finish.
Code: DEPAH.....List Price \$3.50
11. **AG ADAPTER.** Chrome finish. For uses, see Copy No. 7.
Code: AGFIT.....List Price \$.50
12. **SUSPENSION EYE.** For suspending any microphone with standard $\frac{3}{8}$ "x 27 thread. Chrome finish. Sturdy. Code: DYEYE.....List Price \$1.00
13. **BS BANQUET STAND.** Round base 8" in diameter. Rods 12". Extended height 24". Satin Black finish. Code: FUDAS.....List Price \$8.00
14. **FH3 and FL3 FLOOR STANDS.** Approved by the best sound studios. Positive, leather, friction-lock clutch. Noiseless operation. Rods 38". Extended height 6'. Three-contact, "floor grip," rubber-mounted base. FH3, studio model, net weight 15 lbs. FL3, public address model, net weight 10 lbs.
FH3 Floor Stand. Code: FUHET.....List Price \$15.50
FL3 Floor Stand. Code: FLEXR.....List Price \$10.50
15. **EL4 CARBON MICROPHONE.** Double button. Semi-stretched diaphragm. Good quality. Mounting yoke included. No ring or springs necessary.
Code: LITEG.....List Price \$7.50
16. **DD DESK STAND.** Round base, 4" upright. Net weight $1\frac{1}{4}$ lbs. $5\frac{1}{4}$ " base. Chrome finish. Code: DYNES.....List Price \$2.50
DS Desk Stand. Same as DD Stand except with 4 $\frac{1}{4}$ " base. Chrome finish.
Code: DINAC.....List Price \$2.50
17. **SJ CARBON MICROPHONE.** Single button. Sensitive. Chrome finish.
Code: JOHNNE.....List Price \$5.00
18. **FP CARBON MICROPHONE.** New single-button, sensitive, carbon microphone. Operates in any position. For use in French phones and other types of telephone and listening devices. Code: FRONE.....List Price \$3.00
19. **CARBON HAND MICROPHONES WITH SLIDE SWITCH.** Chrome finish.
DB2, Double-button, Hand Mike. Code: DBTWO.....List Price \$15.00
SB2, Single-button, Hand Mike. Code: SUTRO.....List Price \$10.00
Either above models with press-contact switch list \$1.00 extra.
20. **SB HAND MICROPHONE.** Sensitive. Operates in any position. Black crackle finish. Code: TILEX.....List Price \$5.00



Licensed under Patents of The Brush Development Co., and Licensed by Electrical Research Products, Inc., under United States Patents of A. T. & T. Co. and Western Electric Co., Inc., for use only in Public Address Systems.

AMERICAN MICROPHONE CO., INC.

PICK-UP UNITS

AUDAX

RECORDERS

The Standard by which Others are Judged and Valued

FOR more than a decade the design of the phonograph pickup has progressed but little, experiencing no fundamental improvement. It is a pleasure, therefore, to record here for readers of "Electronics" the results of much research on the part of Maximilian Weil of the Audax Company, leading finally to a new unit—the MICRODYNE, in which the bugaboo of moving-mass has been eliminated etc." (reprint "Electronics") . . . **New Principle makes use of Relay-Action—Solves problem of wide-range reproduction—Resonance "peaks", heretofore considered an unavod-**

able evil, always resulting in unpleasant harshness and distortion, are NON-EXISTENT IN MICRODYNE. Because of its *Moving-Inductor principle*, the question of temperature and humidity changes, while serious with certain types of pickups, does not even enter into consideration with AUDAX Pickups—they are non-piezo-electric . . . Results, a marvelous facsimile all the way up and all the way down. . . . These, among many others, are the reasons for the wide acclaim of MICRODYNE, by engineers and music lovers everywhere.

COMPENSATED MICRODYNE

FOR RECORDS UP TO 12"

MICRODYNE D-36-E . . . FLAT within \pm about 2 db to 7500 cycles. Rising bass curve reaching about 8 db at 50 cycles. Exceptionally low Vibratory-Momentum. Point pressure about 39 grams. If desired, may be used with JEWEL-POINT. Tip-jack connectors. Black and Chrome finish. Overall length 12 $\frac{1}{8}$ ". Impedance 200 or 500 ohms. **\$38.50**

MICRODYNE D-31-E . . . FLAT within \pm 2 $\frac{1}{2}$ db to approx. 7000 cycles. Rising bass curve reaching about 9 db at 50 cycles. Greatly reduced Vibratory-Momentum. Point pressure about 1 $\frac{3}{4}$ ozs. Tip-jack connectors. Black and Chrome finish. Overall length 12 $\frac{1}{8}$ ". High impedance or 200 or 500 ohms. **\$24.50**

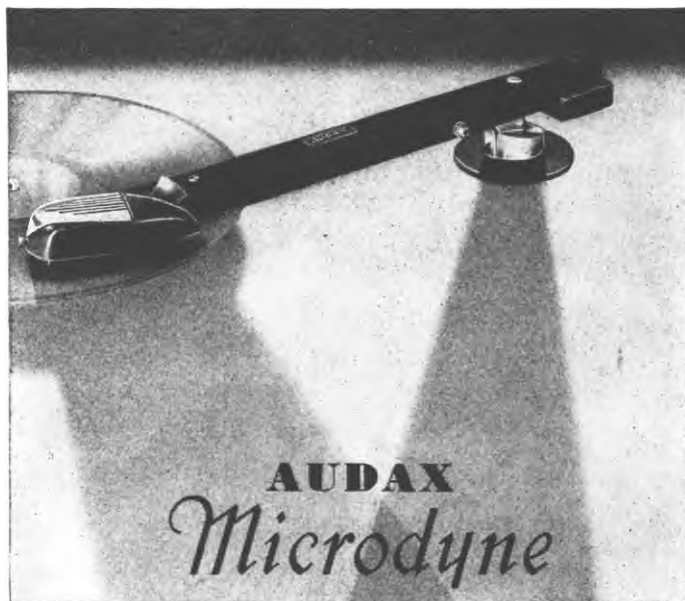
MICRODYNE D-27-E . . . FLAT within \pm about 3 db to approx. 6600 cycles. Rising bass curve reaching about 9 db at 50 cycles. Low Vibratory-Momentum. Point pressure about 1 $\frac{3}{4}$ ozs. Tip-jack connectors. Brown and Gold finish. Overall length 12 $\frac{1}{8}$ ". High impedance or 200 or 500 ohms. **\$18.50**

FOR RECORDS UP TO 18"

MICRODYNE D-37-E . . . FLAT within \pm about 2 db to over 7500 cycles. Rising bass curve reaching about 8 db at 50 cycles. Exceptionally low Vibratory-Momentum. Point-pressure about 39 grams. If desired, may be used with JEWEL-POINT. Tip-jack connectors. Black and Chrome finish. Overall length 14 $\frac{1}{2}$ ". Impedance 200 or 500 ohms. **\$49.50**

MICRODYNE D-32-E . . . FLAT within \pm about 2 $\frac{1}{2}$ db to 7000 cycles. Rising bass curve reaching about 9 db at 50 cycles. Greatly reduced Vibratory-Momentum. Point pressure about 1 $\frac{3}{4}$ ozs. Tip-jack connectors. Black and Chrome finish. Overall length 14 $\frac{1}{2}$ ". High impedance or 200 and 500 ohms. **\$35.50**

MICRODYNE D-28-E . . . FLAT within \pm 3 db to approximately 6600 cycles. Rising bass curve reaching about 9 db at 50 cycles. Low Vibratory-Momentum. Point pressure about 1 $\frac{3}{4}$ ozs. Tip-jack connectors. Brown and Gold finish. Overall length 14 $\frac{1}{2}$ ". High impedance or 200 or 500 ohms. **\$29.50**



RELAYED-FLUX MICRODYNE

MICRODYNE PRO-5 . . . This is an instrument for those who desire the finest of which science is capable. Designed for and equipped with Special Sapphire JEWEL. In emergency, may be operated with conventional steel needle at somewhat reduced range. FLAT within \pm about 1 $\frac{1}{2}$ db to ovr 10,000 cycles. Output about—35 db. It will track with less than 15 grams. However, to overcome the great variation in turntables, warped records, etc., the point-pressure is made 25 grams, for 100% safety margin. Tip-jack connectors. Black and Chrome finish. Overall length 15 $\frac{3}{8}$ ". Impedance 200 or 500 ohms. **\$98.00**

MICRODYNE PRO-3 . . . Similar to PRO-5 above. Point pressure 1 $\frac{1}{4}$ oz. Output about—30 db. **\$75.00**

In addition to the specifications shown—all MICRODYNE models have small beautifully streamlined head, scientifically off-set. New needle-guide. New non-resonant arm, with precision ball-bearings.

MICRODYNE is ideal for Reproducing Acetate Transcriptions Many Times
with no increase in surface noise or loss of fidelity.

PICK-UP UNITS

AUDAX

RECORDERS

The Standard by which Others are Judged and Valued

AUDAX AT-12 . . . Beautifully streamlined head, scientifically offset; point-pressure about 1 7/8 ozs. Response to 6000 cycles; bass gradually rising to about 8 db at 50 cycles; new needle guide; new non-resonant arm; precision ball-bearing; brown and gold finish; available in high impedance or 200 or 500 ohms. For records up to 12"; overall length 9 3/4". **\$12.50**



AT-12

AUDAX AT-10 . . . Similar in appearance to AT-12. Has excellent frequency response; beautifully streamlined scientifically offset head; new needle guide; new non-resonant arm; point-pressure about 2 1/4 ozs.; precision ball-bearings; high impedance; for records up to 12"; overall length 9 3/4". **\$8.00**

CR-3 . . . In answer to many requests, this model was designed expressly for replacement of Crystal type pickups. In performance it is identical with Model AT-12. However, the bass structure is especially designed for ready interchangeability. **\$12.50**

NEW AUDAX HIGH FIDELITY CUTTERS



AUDAX CUTTERS are magnetically powered—their characteristics are not affected by temperature or atmospheric changes. They are readily interchangeable on any recording machine.

DISTORTION has been the greatest retarding factor in producing high quality instantaneous recordings. These NEW AUDAX CUTTERS make possible recordings that are comparable to the best commercial records. Yet, with all their superlative qualities, cost no more than ordinary cutters. They fill an important gap in quality Recording technique.

AUDAX CUTTER H-2 . . . Substantially FLAT to about 6000 cycles. Distortion about 2.6% at 1000 cycles. Fully modulates groove with input of 16 db with 96 lines. Impedances up to 4000 ohms. **\$38.00**

AUDAX CUTTER H-3 . . . Substantially FLAT to about 7500 cycles. Distortion about 1.2% at 1000 cycles. Fully modulates groove with input of 16 db with 96 lines. Impedances up to 4000 ohms. **\$62.00**

AUDAX CUTTER H-4 . . . Substantially FLAT to over 9000 cycles. Distortion about .7% at 1000 cycles. Fully modulates groove with input of 16 db with 96 lines. Impedances up to 500 ohms. **\$98.00**

AUDAX CUTTER 9-X . . . Substantially FLAT to over 5600 cycles. Distortion about 3.3% at 1000 cycles. Fully modulates groove with input of 18 db with 96 lines. Impedances up to 5000 ohms. **\$24.50**

AUDAX JEWEL POINTS

Jewel-Point operation is a highly critical matter. Its use should not be undertaken without advice from the AUDAX COMPANY. All AUDAX jewels are made with the greatest

precision, by the highest skilled craftsmen of the lapidary art. Every AUDAX Jewel is finished and highly polished to the extreme accuracy of $\pm .001''$

AUDAX SAPPHIRE PLAYING POINT.....	\$ 4.00
AUDAX DIAMOND PLAYING POINT.....	\$20.00
AUDAX SAPPHIRE CUTTING POINT.....	\$ 5.50

Electro-Voice



★ DYNAMIC MICROPHONES

CARDAK Poly-Directional Microphone



Model 725—An extremely versatile microphone with a **CONSTANTLY VARIABLE** sound pick-up pattern. Simple control enables it to function as a true cardioid as well as a bi-directional for elimination of sidewall reflected sound. In fact, the CARDAK is adjustable for ANY combination of reflected sound direction.

The frequency response is substantially flat from 30-10,000 c.p.s. Average level, 1 volt/bar: —52 DB. "On-off" switch, built-in. Tiltable for non-directional use. Three contact wiping connector. All impedances available (low impedance balanced to ground). Equipped with 20' cable.

Model 725. Butler Chromium Finish. List Price **\$49.50**



MODEL 640

An extremely rugged, dependable and professional style microphone that reproduces both voice and music with amazing accuracy. Exceptionally wide and flat frequency response, 30-12,000 c.p.s. Output: —52 DB, 1 volt/bar. Tiltable for directional or non-directional operation. Cable connector is built as an integral part of the sturdy, steel reinforced cradle. Equipped with 20' well shielded cable.

Model 640C. Bright Chromium Finish. List \$30.00

Model 640G. Gunmetal Finish. List \$27.50



MODEL 630

Smart, modern appearance, excellent frequency response and flexibility of operation. Frequency response: 30-9,000 c.p.s., unusually flat through lower and middle register rising 5 DB on upper frequencies for added crispness of speech. Output: —55 DB. Full equipment includes "on-and-off" switch, tilting head for directional or non-directional operation, 20' cable (all low impedances are balanced to ground) and cable connector.

Model 630C. Chromium Finish. List \$27.00

Model 630G. Gunmetal Finish. List \$25.00



MODEL 612

A new standard of value in the low price field. Music is reproduced fully and completely, voice entirely natural and crisp. Tiltable in 90 degree arc for directional or non-directional pick-up. "On-off" switch. Resistant to excessive heat, temperature changes, salt air and rough handling. Frequency response: 40-9,000 c.p.s. Output: —56 DB, 1 volt/bar. 20' well shielded cable.

Model 612C. Chromium Finish. List \$25.00

Model 612G. Gunmetal Finish. List \$22.50



MODEL 605

A leader in the lowest price field. Dependable quality, maximum durability, modern appearance and flexible operation. Overall response is highly desirable for all types of sound work, recording and amateur communication. Microphone has a fixed 22 degree tilt. There has been no compromise in design or choice of quality materials. Frequency response: 45-8,000 c.p.s. Output (open line): —58 DB, 1 volt/bar. 8' cable.

Model 605C. Chromium Finish. List... \$17.50

Model 605G. Gunmetal Finish. List... \$16.50

For 20' cable, add to list price \$1.50

All Electro-Voice Dynamic Microphones are available in Hi-Z (Direct-to-Grid) or 50, 200 and 500 ohms. Stand Connector 5/8"-27.

★ VELOCITY MICROPHONES

The V Series has straightforward, functional design. Time has proved the correctness of this fundamental engineering in installations the world over. The NEW "V Series" sets even higher standards of performance. The woven housing allows the sound to pass through without reflection and eliminates the most frequent source of distortion in velocity microphones. The result is less feed-back and higher fidelity. Reproduction is natural, conveying accurately shadings and overtones of music and precise inflection of voice. Available in Direct-to-Grid or all popular low impedances.



MODEL V-1

Small in size, flexible in operation. Frequency response: 40-10,000 c.p.s., substantially flat when placed 6" or more from sound source. Output: —65 DB. 20' cable, connectors, shock-absorber, locking cradle and "on-and-off switch". Excellent for Public Address, Recording and Communication.

List Price \$25.00

MODEL V-3

Exclusive features. Similar in appearance to the model V-2 and has slightly extended frequency response. The NEW V-3, equipped with the Vari-Z selector is an all impedance microphone. (50, 200 and 500 and Hi-Z, direct-to-grid.) Low impedances balanced to ground. Adaptable to all pick-up.

List Price \$50.00

MODEL V-2

Basic design. Embodies every desirable engineering innovation. It is 1/3 larger than the V-1. Ribbon assembly is rubber suspended. Trim, modern and functional. Frequency response: 35-11,000 c.p.s., substantially flat when placed 6" or more from sound source. Output: —64 DB. 20' cable, connectors, "on-off" switch, and locking cradle. Ideal for wide range Public Address, Communication, and Recording.

List Price \$35.00



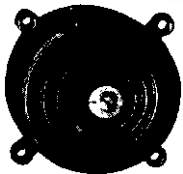
PUBLIC ADDRESS ★ RECORDING ★ COMMUNICATION



Electra-Voice

★ CARBON MICROPHONES

The advantages of these microphones are: Low initial cost, high output for low gain amplifiers and reduction of power supply. Carbon Microphones have reasonably good quality, low hiss and long life. Recommended applications: Mobile transmitters, small call or P.A. systems, operation through radio receivers or phonographs.



MODEL 50

An efficient double button carbon microphone designed to give excellent reproduction and long life. 3-5 m.a. for close talking, 10-15 m.a. for normal work. Finished in gunmetal.

List Price \$5.00



MODEL 75

New streamline styling. Internal shock-absorber that is even more shock-proof than ring mounting, yet conforms to modern design. $\frac{5}{8}$ "-27 stand coupling. Button current (each) 3-5 m.a. for close talking or feedback reduction, 10-15 m.a. for normal work. Finished in gunmetal.

List Price \$7.50

Low Impedance Microphone-to-Grid MATCHING TRANSFORMERS



The windings of these transformers have low distributed capacity and are amply shielded against inductive hum by a high permeability shield, inside a pressure cast case. The mounting is designed for mounting on amplifier chassis or in series with the microphone line.

Model 500. A small, shielded carbon microphone transformer with universal mounting. Finest silicon core. Tapped primary for single or double button. Three wire lead input (no connector). 36" shielded lead output. List \$3.50

Model 501. Designed for 50, 200 (500 ohms optional) microphone transformer with universal mounting. Finest silicon core. Tapped primary for single or double button. MC 3 Input Connector. 36" shielded lead output. List \$5.50

Model 502. Designed for 50, 200 (500 ohms optional) microphones. Broadcast fidelity. Wide range frequency response, for either speech or music. MC 3 Input Connector. List \$9.00

Velocity Microphone Model L-15



Low priced. Sturdy construction. Dependable quality. Bi-directional with a high ratio of volume to feed-back. Finished in baked popular light gunmetal. Frequency response: 50-7,000 c.p.s. Output: -66 DB. 8' cable.

Model L-15R. Rising frequency characteristic, for speech reproduction. List \$15.00

Model L-15. Substantially flat curve, for general purpose speech and music.

List \$16.50

For 20' cable, add to list price \$ 1.50

★ MOBILE MICROPHONES

Mobile microphones differ in that curve is designed to give the best response for "close-talking". The "lows" are attenuated to eliminate boom and to give a crispness to speech even when the user's lips are touching the grille. Designed to fit the palm of the hand. A switch is installed for operation either with the thumb of the left hand or index finger of the right.



MODEL 202

CARBON

Designed expressly for Police, Aircraft and Amateur communication. Speech is clean, crisp and blast-proof. Every model is waterproofed. The head is rubber suspended to prevent damage. The "press-to-talk" switch includes an extra lead for relay operation. Six feet of rubber covered shielded cable.

Model 202S. Single Button Carbon. List \$12.50



MODEL 600

DYNAMIC

Designed for close talking, sports announcing, mobile P.A., and communication. It weighs 13 ounces. A rising frequency response gives clean, crisp speech. Dynamic construction insures freedom from injury by heat, humidity and rough handling. Light gunmetal with chromium grill and trim. Switch is slide-to-talk type. Frequency response: 50-8,000 c.p.s. with attenuated low frequencies. Output: -57 DB. Locking cable connector, 8' cable.

List Price \$25.00

ACCESSORIES

★ **DYNAMIC MICROPHONE BAFFLES.** Model 330. Available for microphone models 630, 612 and 605.

Model 330G. Dark Gunmetal Finish. List \$1.50

Model 330C. Chromium Finish. List 2.00

★ **MICROPHONE CABLE.** Extremely low capacity (.000025 mfd. per foot) for high impedance microphones.

Single conductor. List, per foot \$.08

Double conductor. List, per foot10

★ **SUSPENSION BRACKET.** Convenient for suspending microphone in inverted position (stage or orchestra installation). $\frac{5}{8}$ "-27 thread.

Model 340. List \$.50

★ **HANDLE.** Turned from hard maple. Gunmetal finish. Will convert light weight microphone to a hand type. $\frac{5}{8}$ "-27 coupling.

Model 320. List \$.50

★ **DESK STANDS.** 5" high supporting tube. Space in base for volume control or switch. $\frac{5}{8}$ "-27 thread. Weighs 1 lb.

Model 423DG. Dark Gunmetal Finish. List \$1.50

Model 423LG. Light Gunmetal Finish. List 1.50

Model 423C. Chromium Finish. List 2.50

★ **FLOOR STANDS.** Heavy 13 gauge, chromium plated tubing. In 3 sections. Collapsible. Variable to banquet table height. Adjustable. Base weighs 7 1/2 lbs.

Model 421C. All Chromium. List \$13.50

Model 421B. Chromium with Black Base. List 11.00

★ **FLOOR STANDS.** Special design. One hand operation. Rotate without touching height adjustment. Merely press convenient button to raise or lower. Heavy 16 lb. base. Chromium and Black Winkle Finish.

Model 416. List \$15.00

Model 417. Same as 416 but for banquet table use. List 10.00

Model 418. Desk stand for heavy dynamic or velocity microphone. List 2.50

PUBLIC ADDRESS ★ RECORDING ★ COMMUNICATION



Turner 44X Crystal Whips Feedback Problems

This **SELECTIVE DIRECTIONAL 44X** has 13-15 DB differential between front and rear pickup, and allows back of mike to be considered dead. Eliminates audience and background noises. Moisture-proof crystal; automatic barometric compensator; blast and mechanical shock proofed. 50 foot lines may be used. Handsome satin chrome finish, and full 90 degree tilting head. Range 30-10,000 cycles. Level -58 DB. With diagrams, 25 foot removable cable set and chamoisette microphone **\$27.50**
Dealer Net.....\$26.50



Turner 33X Crystal

Handsome, satin-chrome finished mike, with high capacity crystal, to permit extra long lines. Response 30-10,000 cycles free from peaks. Output -52DB. Low feedback. 90 degree tilting head for semi- and non-directional operation. Rugged for amateur recording or P. A. work. With 25 foot cable set, diagrams and chamoisette mike bag. **\$22.50**
List.....
Dealer Net.....\$13.50

Turner 33D Dynamic

Identical in appearance with 33X. Balanced line cable on low impedance units eliminates noise pick-up. Won't blast. Not affected by climate. 200, 500 ohms or high impedance, with diagrams, 25 foot cable set, and chamoisette **\$25.00**
List.....
Dealer Net.....\$15.00
For 50 ohm model, deduct \$1.50 list.



Turner 22X Crystal

Here's the microphone that gives you clear, crisp performance and smart engineering design. Full satin chrome finish. Ninety degree tilting head and removable cable set. Built-in wind-gag permits operation outdoors. Crystal impregnated against moisture. Automatic barometric compensation. Low feedback. Range 30-7,000 cycles. High level -52 DB. With 7 foot cable set, schematics and **\$16.50**
chamoisette mike bag, List.....
Dealer Net.....\$9.90

Turner 22D Dynamic

Identical in appearance with 22X, but has high level dynamic cartridge. Dependable indoors or out. Amplifies smoothly at all frequencies. Range 40-8,000 cycles. Output -54 DB. 7 ft. removable cable set, tilting head, diagrams and chamoisette mike bag. 200, or 500 ohm or **\$20.00**
hi-impedance. List.....

Dealer Net.....\$12.00
30-50 ohm. List.....\$18.50
Dealer Net.....\$11.10
Add \$1.50 for 25 foot cable set on 22X or 22D.

Switch Equipment



Models 22X, 22D, 33X, 33D and 44X are all available with **SWITCH** illustrated. Permits finger-tip control of mike, regardless of distance from amplifier. Shorts the line quietly, and allows mike to be used as

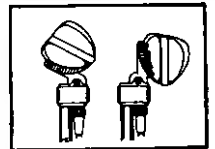
"push-to-talk" unit. For S (switch) models of 22, 33, or 44, ADD \$2.00 List.
Dealer Net...\$1.20

TURNER

Microphones

FREE CATALOG DESCRIBES Turner Dynamic and Crystal Microphones and Many Useful Accessories
WRITE FOR IT TODAY

Above Models All Have Tilting Heads



Models illustrated and described above all are equipped with 90 degree tilting heads, which permits a semi- or non-directional operation. A feature unique in microphones at such low cost.



Model BX
Crystal mike for recording P.A. and ham work. Bronze enamel finish. Level -55 DB. Range 50-5,300 cycles. An excellent unit. With 7 ft. Cable **\$9.95**
List....
Dealer Net...\$8.97

NEW TURNER CHALLENGER MODELS

Where the utmost in quality and appearance must be had at lowest cost, use these Challenger Models.

Crystal models, complete with shock-proof cartridge, barometric valve, moisture sealed crystal and windgag, to prevent blasting.

Dynamic models also give clear-cut results on voice and music. Exceptionally rugged. You can bank on these models. They are fully guaranteed!

Model BD
Dynamic, same finish as BX. Works indoors or out. Level -52 DB. Range 50-5,000 cycles. 200-250 ohms, 500 ohms or hi-impedance with 7-ft. Cable **\$12.50**
List....
Dealer Net...\$7.50

Model CX
Crystal, in rich brushed chrome finish. With 7 ft. removable cable set using Amphenol connectors. Level -55 DB. Range 50-7,000 cycles. A honey... **\$15.00**
List.....
Dealer Net...\$9.00



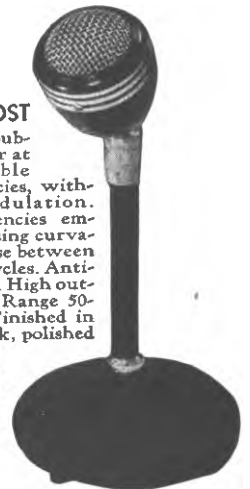
Model CD
Dynamic, same style and finish as CX, with 7 ft. removable cable set. In 200-250 ohms, 500 ohms or hi-impedance. Level -52 DB. Range 50-7,000 cycles... **\$16.50**
List.....
Dealer Net...\$9.90

Model VT-73

Doubles Your Effective Power
AT LOW COST

Practically doubles your power at the intelligible voice frequencies, without over-modulation. Speech frequencies emphasized by rising curvature of response between 500 and 4,000 cycles. Anti-resonant cable. High output -48 DB. Range 50-7,000 cycles. Finished in telephone black, polished aluminum and crystal. Complete with stand and cable. List.... **\$18.00**

Dealer Net \$10.80



CRYSTAL MICROPHONES LICENSED UNDER PATENTS OF THE BRUSH DEVELOPMENT CO.

TURNER HAN-D

9X Crystal or 9D Dynamic



- Hang It!
- Hold It!
- Use It on Desk or Floor Stand

FILLS THE JOB OF SEVERAL MIKES

Whether you want it for voice, music pick-up or auto use, the Turner Han-D will fill the bill. Voice reproduction is crisp and clear without unnecessary sacrifice of bass response. Feedback surprisingly low. Will not blast from close speaking. POSITIVE CONTACT SLIDE SWITCH on 9X and 9D permits off-on operation without thumb fatigue. Withstands rough use. Brushed chrome finish matches modern stands.

Each model packed with 7 foot removable cable set, diagrams and chamoisette mike pouch. Range 60-7,000 cycles.

9X Crystal Level —48 DB. List..... **\$22.50**
 9D 200 or 500 ohm or hi-impedance, List..... **\$25.00**

Dealer Net.... \$13.50 Dealer Net..... \$15.00

Available in 30 - 50 ohms

For 25 foot cable set, add \$1.50 list

L-40 Lapel or Concealed Mike



Extraordinary high signal level. Alligator Clip secures L-40 to clothing, prevents twisting in lapel. Extra-flexible cable fits snugly. Gives clear, crisp speech reproduction and minimizes feedback. Chest sounds damped out. Level—50 DB. Rich brushed chrome finish, with 25 ft. black cloth covered cable. List..... **\$25.00**

Dealer Net..... \$15.00

TURNER U-9S MULTIFLEX Fills 50 Ohm, 200, 500 Ohm and Hi-Impedance Needs



(Same professional design and finish as Model 999, opposite)
 Whatever impedance you need, 50 ohm, 200 or 500 ohms, or hi-impedance, a twist of the switch illustrated here fills your requirements. U-9S is also adjustable to semi- or non-directional operation. Removable 25 foot cable set. Level—52 DB at high impedance and response is free from peaks and holes from 40 to 9,000 cycles. Be sure of your ability to handle the toughest job by adding U-9S to your equipment. It won't let you down. Packed with 25 foot cable set, diagrams and chamoisette mike pouch. List..... **\$35.00**
 Dealer Net..... \$21.00

Turner 99 Dynamic

A Rugged Mike That Delivers

The choice of discriminating buyers who want efficiency and dependability at low cost. Withstands climate and temperature changes, and is the most rugged mike we can offer. Absence of peaks lets you work up close to the speaker; adjustable saddle fits any standard stand; semi- or non-directional operation. Cable changes easily made. Model 99 won't blast from close speaking. Was chosen official microphone at W6USA, California Exposition. Broadcast studios and large city police departments use it for crisp, clear signals. Finished in fine gunmetal. Response 40-9,000 cycles. Level—52 DB. Complete with 25 foot removable cable set, diagrams and chamoisette mike bag, 200 or 500 ohms, or hi-impedance.

List..... **\$29.50**
 Dealer Net.... \$17.70
 30 or 50 ohm, List... **\$27.50**
 Dealer Net.... \$16.50
 Brushed Chrome finish, add \$2.00 list.



TURNER "Third Hand"

Model 3-H

Holds any mike close to your mouth for you, giving tremendous volume without feedback. Leaves both hands free. Goose neck adjusts mike to any position. Slips over your head in a jiffy.



Can be used with long lines as traveling mike. Makes driving safer. Ideal for window demonstrators. Can be furnished with mike switch when ordered with Turner Microphones.

List... **\$5.00**
 Dealer Net \$3.00

With switch, add \$1.00 List. Dealer Net 60c.

TURNER

Microphones

FREE CATALOG DESCRIBES Turner Dynamic and Crystal Microphones and Many Useful Accessories WRITE FOR IT TODAY

TURNER 999 Balanced Line Dynamic Gives Studio Results Under ALL Conditions

For the veteran who demands trouble-free results. Nationally known manufacturers use this model on higher priced equipment. Voice coil and transformer leads insulated from ground and microphone case, according to better broadcast practice. Line balanced to ground. Saddle adjustable. Not affected by temperature or climate. Gives smooth, dependable, professional performance. Finished in dignified gunmetal gray. Complete with 3-pin polarized locking connector and 25 foot balanced line low-capacity cable. No cable to bend or break inside the mike. Range 40-9,000 cycles. Level—52 DB. Packed with chamoisette mike pouch and diagrams. 30 or 50 ohms. List..... **\$30.50**
 Dealer Net..... \$18.30
 200, 500 ohms or High Impedance List..... **\$32.50**
 Dealer Net..... \$19.50



CRYSTAL MICROPHONES LICENSED UNDER PATENTS OF THE BRUSH DEVELOPMENT CO.

Copyright by U. C. P., Inc.

PORTABLE

PRESTO

STATIONARY

SOUND RECORDING EQUIPMENT

PRESTO MODEL "F" RECORDER

A medium priced recording installation for radio stations that record half hour programs for delayed broadcasts, schools that record half and one hour educational programs and personal recording studios that require facilities for duplicating records or re-recording 15 minute transcriptions on 78 RPM records that can be played in the home. . . . Equipped with the highest quality Presto cutting heads and an amplifier designed especially for recording, the Model F recorder may be expected to make records acceptable for all commercial uses.

The Model F recorder consists of two recording turntables and an amplifier completely wired and mounted in a wood table.

The 16" dual speed turntables are equipped with Presto high fidelity cutting heads, vertical dampers, time scales and an underneath cutter feed mechanism that may be adjusted instantly to cut from outside-in or inside-out.

The amplifier includes a two microphone mixer and high and low frequency equalizers which make it possible to produce recordings with exceptionally low background noise. Accessories necessary to operate the recorder include microphones, loudspeaker, discs and needles which must be ordered separately. **List Price—\$1,075.00**

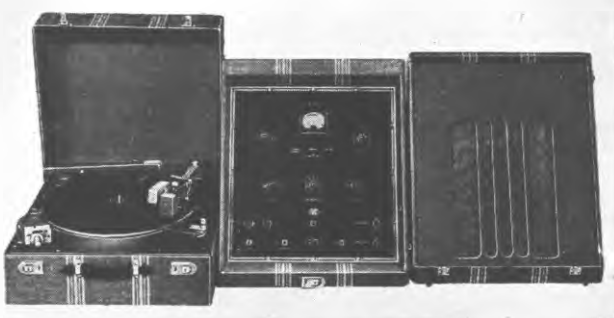


PRESTO MODEL "Y" RECORDER

The Presto Model Y recorder fills the need for a 16" transcription recording and playback equipment which is extremely portable and yet capable of producing high grade recordings. It makes continuous 15 minute, 33 1/3 RPM electrical transcriptions of sufficiently good quality to be used by broadcasting stations. It also makes 78 RPM recordings on 6", 8", 10" or 12" discs and may be used to cut 11 1/2", 13 1/2" and 17 1/4" master recordings from which commercial pressings are produced. In addition to recording, the Model Y gives excellent reproduction of both electrical transcriptions and phonograph records and is widely used for auditioning recorded radio programs to prospective sponsors. As a public address system it will provide sound for audiences up to 500 persons.

Among the important features of the Model Y recorder are:

1. The exclusive Presto rubber-rimmed-turntable driven directly by a steel pulley on the motor shaft, a simple, foolproof drive system that eliminates vibration and holds the turntable absolutely constant. Maintenance is negligible. There are only two moving parts which need replacement about once a year.
2. A lever changes the turntable speed instantly without stopping the table or removing the record.
3. A lever adjusts the cutting mechanism to cut either from the outside of the disc toward the center or from the center out.
4. A cam lever lowers the cutting head gently on the record preventing accidental damage to sapphire needles.
5. A vibration damper attached to the cutting head suppresses vertical modulation in the record groove.



6. The cutting arm may be unlocked from the feed mechanism to cut spiral starting and runout grooves.
7. A time scale on the cutting arm shows the starting point for each size record and elapsed time at both 78 and 33 1/3 RPM.
8. The cutting head feed mechanism is located beneath the turntable where it is protected from dust or accidental damage.
9. The recording amplifier includes a two microphone mixer, high and low frequency equalizers and a change-over switch for continuous recording or re-recording. The amplifier and loudspeaker fit together to carry in a single case.

List Price less Microphone and Stand, \$595.00

PRESTO MODEL "K" RECORDER

A complete portable recorder in a single unit. Exceptionally light and compact, the Model K Recorder is ideally suited to the needs of teachers of speech, music and dramatics, as well as professional actors and musicians, who require an instrument that can be carried easily and set up for operation in a few minutes' time.

The Model K makes 6, 8, 10 and 12 inch records, plays back all types of phonograph records and operates as a voice amplifying system to serve audiences of about 500 persons.

Although it is the lowest priced complete Presto Recorder it contains many valuable features of the more expensive instruments such as: 1. A magnetic cutting head and pickup, found only in high grade equipment. 2. A full sized, six tube amplifier chassis. 3. A safety cam lever for lowering the cutting head, preventing accidental damage to sapphire needles. 4. A detachable, dynamic loudspeaker which may be operated at any desired distance from the recorder. 5. A cutter feed mechanism located beneath the turntable where it is not exposed to dust or accidental damage. 6. The exclusive Presto rubber-tired turntable driven directly by a steel pulley on the motor shaft, a drive system that eliminates rubber pulleys, belts and other parts subject to rapid wear. . . . These features, not found in the average recorder, greatly simplify the operation of the Model K for non-technical users. They reduce operating costs by preventing the spoilage of discs and needles and help the user to obtain consistently high quality recordings. The Model K-6 Recorder has a 12", single speed (78RPM) recording turntable and includes a crystal microphone with adjustable floor stand. The Model K-7 is identical except that the turntable operates at both 78 and 33 1/3 RPM. Only accessories necessary to operate the recorder are discs and needles which must be ordered separately.

List Price—K-6, \$215.00; K-7, \$230.00



THE PRESTO RECORDER MAKES THE GROOVE AS IT RECORDS THE SOUND

PORTABLE

PRESTO

STATIONARY

SOUND RECORDING EQUIPMENT

PRESTO DISCS AND NEEDLES

FOR COMMERCIAL, EDUCATIONAL AND HOME RECORDING

All Presto discs may be cut on both sides. They are packed in cartons of ten. Each disc is labeled and enclosed in an individual envelope. Playing time per side for the various sizes is as follows:

6" — 1 minute	10" — 3.5 minutes
8" — 2 minutes	12" — 4.5 minutes
16" — 15 minutes (33½ RPM)	



PRESTO ORANGE SEAL DISCS (Medium Aluminum Base). Recommended for use where high quality reproduction is required.

Size	Thickness	List Price (Box of 10)
6"	.036	\$ 4.00
8"	.036	5.50
10"	.036	8.00
12"	.036	10.00
16"	.051	20.00

PRESTO BLUE LABEL DISCS (Light Aluminum Base). An excellent disc for educational and experimental recordings.

Size	Thickness	List Price (Box of 10)
6"	.025	\$2.50
8"	.025	4.00
10"	.025	6.00

PRESTO SAPPHIRE CUTTING NEEDLES—Have an average life of 5 hours on each sharpening and may be resharpened about eight times.

	List Price
Sapphire Cutting Needle	\$6.00 each
Resharpening Sapphire Point	2.50 each

PRESTO SAPPHIRE PLAYING NEEDLES—A semi-permanent playing needle giving an average of 500 hours of service if used only on Presto recordings and vinylite pressings

List Price, \$1.25 each

PRESTO STELLITE CUTTING NEEDLES—Presto Stellite cutting needles make cuts that compare favorably with the sapphire but the cutting life is shorter, averaging about two hours. Stellite needles may also be resharpened.

List Price

Stellite Cutting Needle	\$1.25 each
Resharpening Stellite Point	.65 each

PRESTALLOY CUTTING NEEDLES—Cut very quietly and have a cutting life of five to fifteen hours. They are not subject to breakage and may safely be used by non-technical operators. Low initial cost and long life make them well suited for school and home use.

List Price

Stellite Cutting Needle (Pkg. of 3)	\$1.00
Steel Cutting Needles (Car. 12 pkgs. of 3)	12.00

PRESTO STEEL CUTTING NEEDLES are recommended for home recording. Their life is about one half hour after which they must be replaced.

List Price

Steel Cutting Needles (Car. 12 pkgs. of 3)	12.00
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PRESTO TRANSCRIPTONE PLAYING NEEDLES—A semi-permanent metal alloy needle having a playing life of 40 to 50 hours on commercial phonograph records and considerably longer life if used exclusive on Presto recordings and vinylite transcriptions.

List Price \$1.00 each

PRESTO RED SHANK STEEL PLAYING NEEDLES—A carefully shaped shadowgraph inspected playing needle, recommended for general use.

List Price

Pkg. of 25	\$ 0.25
Carton of 40 pkgs. of 25	10.00

DISCLUBE—Record preservative hardens the surface of the groove and aids in protecting the recording from the effect of dust or finger prints.

List Price (Two-ounce can) \$0.45



PRESTO TYPE 75-A RECORDING TURNTABLE

The lightest 16" dual speed recording turntable made. Recommended for all services requiring a high grade portable recorder. Widely used by broadcasting stations that record local news events for delayed broadcasts. A rugged, compact recording installation for mobile pick-up units.

Used by industrial concerns, hospitals, scientific laboratories and in the visual education departments of schools and colleges in conjunction with 16 mm sound-film projectors for recording and reproducing narrative comment, sound effects and background music with locally produced silent films.

An ideal turntable unit for installation in custom built radio sets designed for owners who wish to reproduce electrical transcriptions and to record complete operatic and symphonic radio programs or educational broadcasts. LIST PRICE \$350.00



PRESTO TYPE 9-A AND 9-B RECORDING TURNTABLES

A portable 12" table for recording and reproducing 6", 8", 10" and 12" records. Its exceptional steadiness, speed accuracy and lack of vibration make it an excellent table for re-recording purposes. Designed for recording the two speed model has ample power for playing 16" electrical transcriptions if equipped with a 16" pickup. It is recommended as a second turntable to be added to the Model K recorder for continuous recording. The chassis can be installed in many standard radio sets in place of the ordinary turntable to provide both radio recording and playback facilities.

LIST PRICE: Model 9A (78 RPM table) \$120.00
LIST PRICE: Model 9-B (78 and 33½ RPM table) \$135.00

THE PRESTO RECORDER MAKES THE GROOVE AS IT RECORDS THE SOUND

'GARRARD' RECORD CHANGERS



TYPE RC 30 DE LUXE "MIXER" AUTOMATIC RECORD CHANGER With Low-Pressure (One-Ounce) High-Fidelity Crystal Pick-Up and Permanent Sapphire Stylus

A GREAT ACHIEVEMENT—and a remarkable, new unit—is Garrard's RC 30 De Luxe "Mixer" Record Changer with Low-Pressure, High-Fidelity Pick-up!

- Low-pressure (one ounce) High-Fidelity Crystal pick-up with permanent jewel stylus!
- Automatic mixing! Plays both 10" and 12" records —no adjustments necessary!
- Efficient, simple, fool-proof record changing!
- Superb motor—with Speed Regulator!

Low Pressure pick-up: For the first time, a one-ounce, high-fidelity pick-up on a record changer! Frequency response 30 to 3500 C.P.S. Records last indefinitely because of the lack of needle pressure and "digging." There is no necessity to change needles! The jewel tip lasts for several years of normal playing. The true-tangent Garrard arm also has a new patented Jewel-movement pivot.

Automatic Mixing: The RC 30 is amazingly versatile. It plays both 10" and 12" records, in any assortment, any combination. No buttons to push, no switches to throw. Just load all the records, and the RC 30 takes over from there. Record changing is performed simply, efficiently and silently, regardless of the amount of space between records, regardless of record warpage, and with absolute independence of the varying thicknesses found in records. There are no moving parts operating between records, to damage or scratch them.

Superb Motor, speed-regulated: The motor is silent and sturdy, built to give powerful but regular, governed running. Other outstanding features are the Non-Slip Spindle—exclusive with Garrard—which prevents slippage between records on the turntable; and a new, improved exclusive Automatic Stop. After

the last record has been played, the changer stops automatically and the current is shut off.

Special spring mountings for full floating non micro-phonie installation.

Over-all dimensions with a full record supply are: 15" long x 11 3/4" wide x 5 1/2" clearance above the unit plate x 4 1/2" below the unit plate. In the AC-DC models clearance below the unit plate is 5". Cabinet space allowance should be 15" long x 13" wide, to accommodate 12" records.

List Price

RC 30—AC MODEL

100/130 volts, 50/60 cycles \$75.00

RC 31—UNIVERSAL AC-DC MODEL

100/130 volts and 200/250 volts, 25/60 cycles... 85.00

The RC 30 and RC 31 Record Changers are also available with standard cartridge (40 to 6500 cycles) —2 1/2 ounce needle pressure, 2.5 volts output.

These are for use where the lower gain (.85 volts) High Fidelity, low pressure RC 30 pick-up is not suitable, due to lack of sufficient amplification or gain in the receiver.

List Price

Model RC 30ST—AC Model \$65.00
RC 31ST—AC-DC Model 75.00

MODEL H6—DE LUXE PICK-UP ARM With Low-Pressure, High-Fidelity Cartridge and Permanent Sapphire Stylus

The Garrard DeLuxe Pick-up incorporates every latest engineering improvement. It is an entirely new unit, never before available. Technically, it is the finest pick-up we have ever had to offer. It is furnished complete with mounting base and shielded pick-up leads, together with necessary template and mounting instructions, and offers these unique advantages:

The arm is of all-metal construction, finished in a beautiful lacquered brown. It is absolutely perfectly balanced, and features a ball-bearing, jewelled mount and pivot. The special curvature of the arm places it at a true tangent to the record grooves, insuring proper tracking.

The pick-up itself is the latest low pressure (one ounce) high fidelity pick-up, complete with permanent sapphire stylus. This is the very same pick-up used in the Garrard Model RC 30 automatic record changer. Tonal quality is superb, and record wear has been reduced to an absolute minimum. The high-grade sapphire stylus will give several years of normal playings, without replacement.

List Price

\$15.00



'GARRARD' PHONOMOTORS - ASSEMBLIES ACCESSORIES

TYPE K DE LUXE SINGLE RECORD PHONO ASSEMBLY



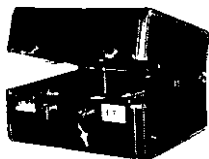
Another remarkable new unit in the Garrard line, combining features never before available in any assembly at anywhere near this price range. Uses the new Low-Pressure (one-ounce) High-Fidelity Crystal pick-up with permanent jewel stylus, exactly as used in the RC 30 Record Changer. Prior to now, anyone desiring a pick-up of this quality had to spend as much for the pick-up alone as this entire assembly costs. And the Type K assembly is identical in every other respect to the enormously popular Garrard single record players which have been labeled "best buys" since their inception.

The new Garrard pick-up makes it possible to play records for several years of normal playing, without impairing the quality of reproduction. It is not necessary to remember to change needles, nor is there the possibility that the use of a worn needle will damage the records. Tonal quality is perfect. The frequency response curve runs from 30 to 8500 cycles! The pick-up is housed in Garrard's free-swinging, now jewel-movement tangent pick-up arm. The silent, sturdy motor has a speed regulator. An Automatic Stop operates at the end of the record; there are no buttons to push or switches to throw, to start the assembly. A slight pressure of the pick-up arm when it is lifted to place on the record, starts it instantly.

Furnished complete with special Full Floating Spring Mounting and all necessary hardware, instructions, template, etc. Dimensions of the unit plate are 15" wide x 11 3/4" deep.

- AC8K—AC MODEL
110/130 volts, 60 cycles List Price \$32.50
- UC5K—UNIVERSAL AC-DC MODEL
100/130, 200/250 volts,
25/60 cycles List Price 42.50

CARRYING CASE



A record changer with a complete load of records may be operated with the lid closed. This new, beautiful case is made of solid wood throughout, to guarantee long service and wear. Covered with finest quality of alligator type material available. Sewn, leather edges run completely around entire case. Has two locking snaps. Size: 16" x 13 1/2" x 10 1/2".

MODEL CC 1—Completely covered motor board, uncut

MODEL CC 10—With motor board cut out to accommodate RC 10 or RC 30 Changer, and Type G Assembly
List Price both models..... \$15.00

TABLE MODEL CABINET

Beautiful, hand-rubbed walnut finish cabinet, custom-built to accommodate Garrard assemblies. Luxuriously finished with rounded corners. Supplied with motor board, it is modestly priced for economical installations. Size: 17" wide x 15" deep x 11 3/4" high.

MODEL LC 1—With motor board uncut

MODEL LC 10—With motor board cut out to accommodate RC 10 and RC 30 Changers, and Type G Assembly
List Price both models \$18.00

TYPE G STANDARD SINGLE RECORD PHONO ASSEMBLY



Similar in many respects to last year's enormously popular single record assembly, with one important exception—the motor has lots of added torque, for exceptionally free running and satisfactory performance. Any radio can be quickly and easily converted into a "Combination" with this assembly. The perfectly constructed motor runs silently, without vibration, and is fitted with Garrard's patented over-sized governor.

Equipped with Speed Regulator and fully Automatic Start and Stop. All that is required to start unit is to lift pick-up arm and exert a slight pressure to the right. After record has been played, the unit automatically comes to a complete stop, shutting off the current as it does so! No buttons to push or switches to throw.

The Type G Assembly "floats" in the cabinet when installed. Special spring mountings are included with every unit. Dimensions of the unit plate are 15" wide x 11 3/4" deep.

- AC8G—AC MODEL, WITH CRYSTAL PICK-UP
100/130 volts, 60 cycles List Price \$28.00
- UC5G—UNIVERSAL AC-DC MODEL, WITH CRYSTAL PICK-UP
100/130 volts and 200/250 volts,
25/60 cycles List Price 38.00

Model 201 TRANSCRIPTION MOTOR



Utterly different in principle from most other units, this is not only the finest motor in the Garrard line, but the finest of its kind in the world. Officially used by the British Broadcasting Company. Capable of meeting the most exacting requirements. A slow speed motor of the self-starting induction type, fitted with patented Garrard Governor to insure perfect regularity. Motor is rubber mounted on a 12" plate. Speed regulator and indicator plate are integral parts of the unit plate. Speed regulator allows a wide range of speeds. Extra heavy rotor gives necessary torque for absolutely constant speed, free from "wows" and vibrations. Furnished complete with 12" turntable, the entire unit is ready for installation as supplied.

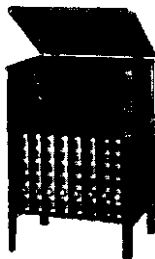
- 201-T—TWO SPEEDS, 78 r.p.m. and 33-1/3 r.p.m.
100/130 volts, and 200/250 volts,
40/60 cycles List Price \$40.00

AUTOMATIC START-STOP SWITCH for 201 List Price 1.50

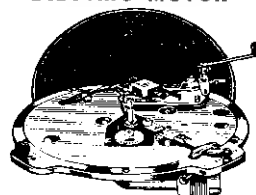
CONSOLETTA

This beautiful custom-built cabinet is built of solid walnut—selected grain wood—and is highly polished. Not only does it accommodate the record changer or record player, but it will hold a large quantity of record albums. Size: 20" wide x 15 3/4" deep x 30" high.

- MODEL CM 1—With motor board uncut
- MODEL CM 10—With motor board cut out to accommodate RC 10 and RC 30 Changers, and Type G Assembly
List Price both models \$35.00



TYPE C UNIT ASSEMBLY ELECTRIC MOTOR



An unusually powerful unit, featuring Garrard's superb, silent motor. Phosphor bronze bushing bearings and fittings used throughout. Runs silently, with no vibration. Equipped with the exclusive fully Automatic Start and Stop. Unit comes to you set for 78 r.p.m., but speed regulator makes it capable of a wide range of speeds, to suit any musical requirement. Motor, Speed Regulator and Automatic Start and Stop Switch are all mounted in correct position on a handsome 12" bronze, polished plate. Installation is simplified because absolutely correct placement of all parts has already been done for you. Entire unit is ready for installation as supplied. It is simply slipped into motor-board cut-out, and is ready to operate. Maintenance has been reduced to an absolute minimum. Dimensions at widest points of mounting plate are 12 1/4" wide x 13 3/4" deep.

- A8C—AC MODEL
100/130 volts, 60 cycles. List Price \$18.00
- UC5C—UNIVERSAL AC-DC MODEL
100/130 volts and 200/250 volts,
25/60 cycles List Price 28.00

TYPE D SPEED REGULATOR ELECTRIC MOTOR



Similar to Type C, except that it does not have mounting plate or automatic stop, for use where this is not essential. Incorporates all the advantages of an induction type motor over a synchronous type, such as self-starting, wide range speed regulation and powerful but regular running. Motor is fitted with phosphor bronze bushings and bearings throughout and has the patented, over-sized Garrard governor which insures perfect regularity and control. Totally enclosed type, and so designed that the possibility of interference with radio amplification has been eliminated. Comes furnished complete with all mounting hardware, speed regulator arm and plate, and 12" plush covered, bronze-finished turntable.

In the Universal model, the same connection is used for either AC or DC current. No need to change wiring or to use switches—particularly advantageous for AC-DC combinations.

- A8D—AC MODEL
100/130 volts, 60 cycle. List Price \$13.50
- U5D—UNIVERSAL, AC-DC MODEL
100/130 volts and 200/250 volts,
25/60 cycles List Price 23.50

PERMANENT SAPPHIRE NEEDLES

Possibly the finest needle of its type available anywhere. The Garrard Sapphire Needle will play 2,000 records with minimum wear and scratch, and will last for two or three years of normal playing, giving excellent service throughout. Supplied with installation instructions.

Garrard Sapphire Needle.....List Price \$1.50

CHROMIC NEEDLES

Excellent, long-playing, semi-permanent needles, especially designed for use with automatic record changers. Each needle will play 100 records.

Garrard Chromic Needles Per Pkge. \$0.15 (10 to a package)

BUILD YOUR OWN RECORDER

By The "Progressive Plan of Assembly"

with REK-O-KUT Professional Components

REK-O-KUT Corporation, in keeping with its policy of catering to the demands of the recording field, offers a new and complete line of professional recording equipment unsurpassed in quality, performance or price. New designs and methods of production enable us to offer this specialized equipment in assembled sectional units, each being a complete mechanism. This permits the purchaser to secure any mechanical section of a recorder that he may desire, either for replacement or initial construction.



REK-D16—DUAL SPEED 16" Recording Motor Assembly

The new REK-O-KUT DUAL SPEED Recording Motor Assembly for 16" records is a departure from the present types used. Employing the modern methods of unit assembly, as exemplified by the automobile industry, REK-O-KUT engineers have designed a simple, compact unit, which can be mounted in a few minutes either on a recording bench or in a portable case.

The heavy cast iron motor panel and the 3" turntable shaft bearing are cast in one unit. This ideal arrangement insures positive alignment at all times of the

the turntable and REK-O-KUT overhead recording mechanism. Movement of a lever to the right or left immediately changes the speed of the turntable from 78 r.p.m. to 33-1/3 r.p.m. without stopping the motor of the turntable. The REK-O-KUT overhead recording mechanism is mounted to this motor panel in five minutes.

CONSISTS OF:

Motor—1/20 h.p., A.C., 110 to 120 volts, 60 cycles, suspended in live rubber, with large diameter motor shaft bushing to prevent slippage.

One compound and one single idler pulley.

An accurately machined and balanced aluminum turntable with fitted polished steel shaft.

A single unit, heavy, cast-iron motor panel with cast turntable bearing, accurately machined to support turntable, motor and REK-O-KUT recording mechanism. This type of assembly eliminates vibration, insuring fine recording and transcription playback.

Net Price **\$99.50**

For special voltages and frequencies, prices upon application.

RK-12

Recording Motor Assembly

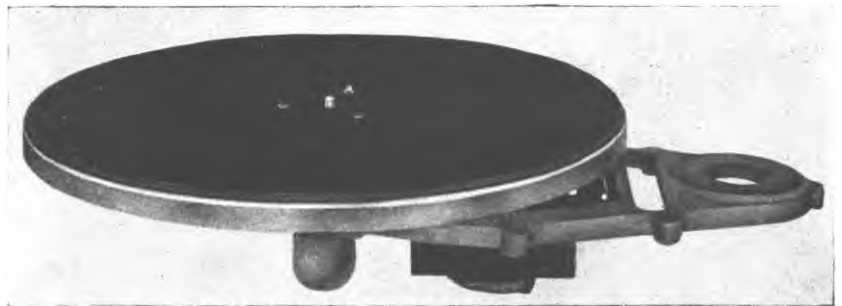
A 78 r.p.m. rim-drive unit, designed to record up to and including 12" records.

CONSISTS OF:

Heavy, accurately machined 12" cast-iron turntable.

Rim drive recording motor, 110-120 volts, 60 cycles.

Accurately machined cast-iron motor plate with built-in turntable shaft bearing, all in one piece for true alignment and ruggedness. Motor and REK-O-KUT overhead recording mechanism are mounted direct onto this plate.



Entire assembly can be installed in less than 15 minutes.

RK-12—78 r.p.m. Net Price **\$27.50**

120 LINE FEEDSCREWS FOR R-12 & R-16

Custom cut feedscrews with precise tolerances to record 120 lines per inch. Interchangeable on all standard REK-O-KUT overhead feed mechanisms. Available inside-out or outside-in. Specify when ordering.

R-12—Feedscrew. Net Price **\$10.50**

R-16—Feedscrew. Net Price **12.50**

RK CASE—Beautiful grained, sturdy, leather finished case with 1/2" thick plywood mounting panel, machined for easy mounting of REK-O-KUT RK-12 Motor Assembly, pickup, etc. Net Price **\$7.50**

Outstanding Features of REK-O-KUT OVERHEAD FEED MECHANISMS

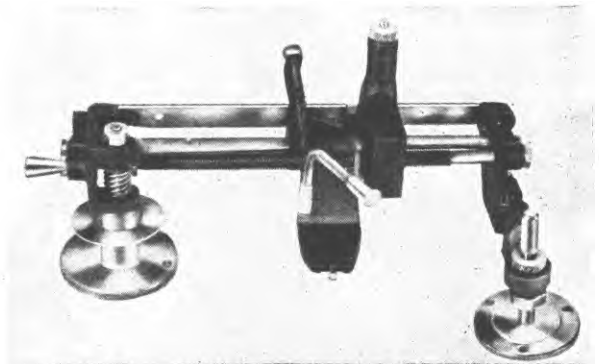
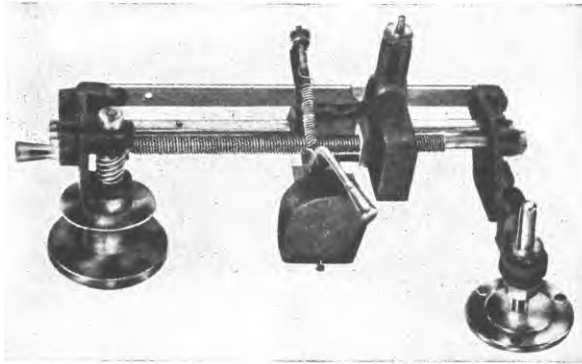
Models R-12 R-16 — RA-12, RA-16 — RB-12, RB-16

- ★ Standard units are now constructed for outside-in recording.
- ★ Recording time increased by the use of a 100 line feedscrew.
- ★ A newly designed, patented chip collector. The ONLY COLLECTOR that will wind the chip without pulling or bending the cutting stylus while recording.
- ★ Cutting head may be raised or lowered without removing the carriage feed from the feedscrew.
- ★ Simple lever arrangement disengages the feed nut from the feedscrew to permit spiral grooving at conclusion of recording.
- ★ Same lever may be employed to secure "spot" recordings rapidly and accurately.
- ★ Designed for 12" and 16" turntables.
- ★ Mechanisms available with standard magnetic and crystal as well as special Brush crystal cutters.

BUILD YOUR OWN RECORDER

By The "Progressive Plan of Assembly"

with REK-O-KUT Professional Components

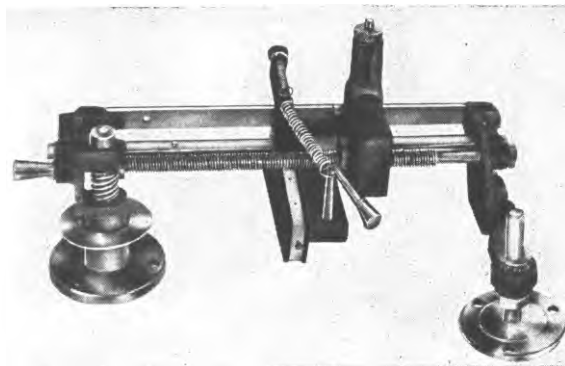


R-12—REK - O - KUT mechanism with magnetic cutter, wide frequency range from 50 to 6,000 cycles.

Net Price\$29.50

R-16—Same as above for 16" recordings.

Net Price\$36.00



RA-12—REK - O - KUT mechanism equipped with Astatic crystal cutter.

Net Price\$33.75

RA-16 — Same as above for 16" recordings.

Net Price\$40.25

RB-12—REK-O-KUT mechanism with RC-20 Brush high fidelity cutter. Net Price\$41.50

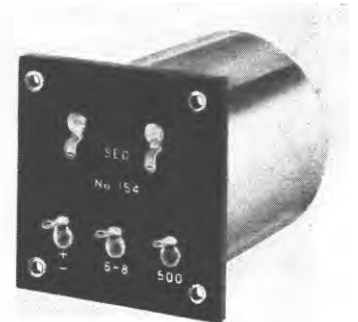
RB-16—Same as above for 16" recordings. Net Price\$48.00



RK MONITOR METER

A sturdy meter of the rectifier type, especially designed for monitoring purposes. The meter has four scales, one reading from -10 db. to +7 db., and a second from +7 db. to +25 db. The other two scales for recording level indication are calibrated in terms of "undercut," "normal cut," and "overcut." They are clearly indicated. These scales are usable with most magnetic cutting heads and are for 500 or 8 ohm impedances. Net Price\$7.95

RK MATCHING TRANS- FORMER



Specially designed to operate with crystal cutters having a high frequency response. The frequency response of the RK Matching Transformer is flat from 50 to 9000 cycles. Primary 6-8 and 500 ohms. Secondary 3000 ohms. Bakelite front panel with etched designations for contacts. Compact, polished aluminum casing. Net Price\$4.50

Walco



NEEDLES

WALCO SAPPHIRE PLAYBACK NEEDLES



The WALCO Sapphire Needle has proved such a successful innovation to the phonograph industry that it is now being adopted by national manufacturers for their permanent-needle pickups. The highly polished genuine sapphire tip is shaped to fit the record groove. The only needle which cannot injure home recordings. While sharp metal needles will cut into the discs, the WALCO Sapphire's smooth rounded tip provides the maximum of safety to records. Will play 2,000 ordinary records, or 5,000 home-recordings without injury to records.

Available with straight shank for professional use.
 List Price \$1.50 each Net Price \$0.90 each

WALCO SAPPHIRE CUTTING NEEDLES

World's finest genuine sapphire cutting stylus. Standard in all radio-recording studios where perfect recording is required. Each stylus will cut more than 2,000 eight inch sides. For those desiring superior recording quality for far less money. May be resharpened many times at low cost.

Each WALCO Cutting Needle is unconditionally guaranteed to be perfect. Available in standard length (9/16") and long shank length (12/16").

List Price \$5.00 each Net Price \$3.00 each
 Resharpening \$1.25 each net

Uniformity of WALCO Sapphire Cutting Needles is guaranteed. They are .002" within 1/10,000 inch. Such accuracy seems incredible. It is only because the company making these needles produces every jewel used in watches, voltmeters, ammeters, airplane instruments, etc. where .0001 inch accuracy is standard, and perfection is the only criterion. Thus we can guarantee uniform results from the WALCO Sapphire Cutting Needle.

Microscopic examination showed other reasons for variable performance and too rapid wear. Many styli examined show chipped cutting edges. (See microphotographs.) True, this is visible only under a powerful microscope, but it explains noisy grooves and short



Ordinary Stylus WALCO Stylus

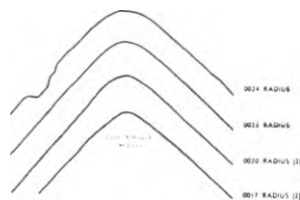
life. A chipped edge wears unevenly and soon becomes unusable. Producing a perfect cutting edge on sapphire is an art—nothing less.

Copyright by U. C. P., Inc.

What microphotographs cannot show (because with this magnification no perspective or depth of focus is possible) is the shape of the cutting edge. This must not be perfectly sharp but slightly rounded. Perfection, at this point, of shape, dimension and polish is the secret of long life. Only a factory which does nothing but the finest precision work on sapphire jewels can possibly maintain the required uniformity.

Special duralumin wire is used for the shanks; much lighter than brass, it gives greatly improved high frequency response.

Below are shadowgraph tracings of six average sample cutting needles purchased in the open market. The point of a cutting needle should be ground with an .002" radius. Those charted show measurements from .0017" to .0024", an intolerable variation. It is scarcely necessary to point out that an .0017" groove will be quite unsatisfactory when played back with an .0022" point (the standard measurement for playback needles).



WALCO STEEL CUTTING NEEDLES

The only steel cutting needle manufactured by jewel-grinders. Hand-polished, finest hardened alloy-steel. Every WALCO Steel Cutting Needle is micro-inspected, guaranteed to be uniform.

List Price (Pkg. of 5) \$1.00 Packed singly \$.25
 Net Price (Pkg. of 5) .60 Packed singly .15

Walco

HOME RECORDING

DISC

Professional Quality for Home Recording

Check these entirely
new features:

1. Non-inflammable thread
2. Low surface noise
3. Hundreds of perfect playbacks
4. Cannot injure cutting needles
5. Lowest prices ever offered for comparable quality



The new WALCO DISC offers everything that the amateur or professional recorder needs in the way of a truly fine, inexpensive recording blank. Manufactured in a modern, air-conditioned plant under the most exacting methods, every WALCO DISC is guaranteed to be absolutely uniform.

SPECIFICATIONS

1. PAPER BASE

- a. Light shipping weight.
- b. Will not injure cutting needles. Most amateurs cut through the coating on records at times. Metal base records will destroy expensive cutting needles.
- c. Center-hole grips spindle tightly as it is somewhat smaller in diameter. Thus record will always lie flat.

2. COATING

- a. Non-inflammable — Insurance underwriters and postal authorities are becoming insistent that no nitrate (combustible) discs be used in the home or in the mail.
- b. Protective bead on edge of record. Prevents sharp, new cutters from digging down to the base.
- c. Coating is chemically inert, will not harden with age.

- d. Material is tough, can be played back 200 times on a 2 ounce pickup.
- e. Material cuts easily with either sapphire or steel cutters, providing long life to the styli.
- f. Disc takes high fidelity recording with very low surface noise, making disc entirely suitable for semi-professional recording. For nine jobs out of ten, the Walco Disc can be used instead of expensive aluminum coated records.

3. PACKING

- a. Records are packed in glassine envelopes which are placed in a kraft envelope.

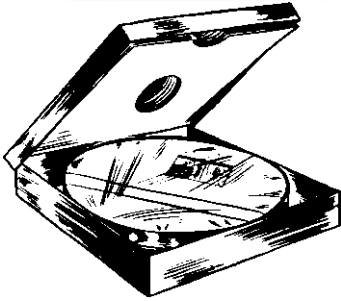
PRICES — WALCO DISC PACKAGES

	List Price	Net Price
6½ inch	6 discs for \$0.90	\$0.54
8 inch	4 discs for .90	.54
10 inch	3 discs for .90	.54



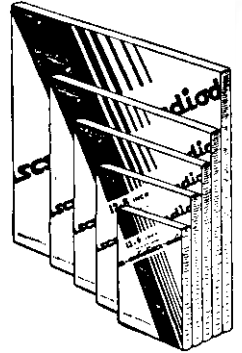
AUDIODISCS

RED - YELLOW - BLUE - BOND BASE



INSTANTANEOUS RECORDING BLANKS

Highest quality, machine-made Instantaneous Recording Blanks. "Acetate" coated on heavy gauge aluminum. Popularly priced and designed for all types of recording: Radio stations, recording studios, amateurs and home recordists.



PHYSICAL PROPERTIES

UNIFORM COATING

AUDIODISCS' exclusive machine-coating process, unlike the usual dipping, spraying, or flowing processes, produces a smooth, flat surface free from swirls, waves, and "orange peel," uniform to within one-half a thousandth of an inch.

LONG STYLUS LIFE

Due to elaborate filtering and air-conditioned drying, the AUDIODISC coating is free from embedded abrasive material which may damage cutting styli and cause "clicks" and unpleasant surface noises in playing back.

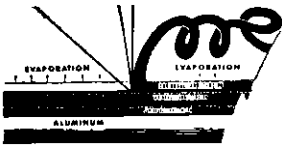
CHEMICAL PROPERTIES

HOMOGENEOUS COATING

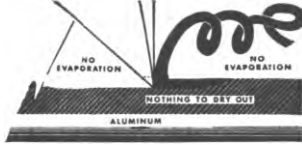
While other discs are coated to irregular thicknesses by successively applying layers of liquid material, AUDIODISCS are uniformly coated in one operation with a material of exclusive formula and by means of precision machines.

WILL NOT DRY OUT

Unlike other discs which dry out and harden, a special curing process removes from AUDIODISCS the last trace of volatile constituents. After the disc leaves the factory nothing that can dry out remains in the material. Blanks made by this same process over four years ago, today still cut easily and play back perfectly.



OTHER DISCS



AUDIO DISCS

PROCESS LIKE WAX

Available in all standard oversizes, "Master" AUDIODISCS for processing are coated on thick aluminum and have only one drive hole to help prevent flashing during processing. The mirror-like machine-made coating permits finest grain silvers and results in the smoothest, shiniest pressings.

SOUND PROPERTIES

SILENT BACKGROUND

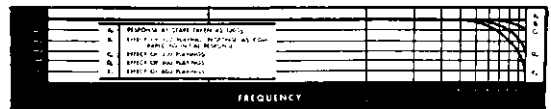
Under correct cutting conditions there is not a whisper of background scratch to be heard from an AUDIODISC at normal playback volume. This silence is best obtained by using a perfect stylus and setting the cutting angle vertical as explained in leaflet entitled "Helpful Suggestions for Cutting" furnished with each package of AUDIODISCS.

BRILLIANT FREQUENCY RESPONSE

While the easy cutting qualities of the AUDIODISC coating permit the recording of the full range of the best cutters, its tough nature keeps the pickup from mushing down minute modulations and results in brilliant "highs."

LONG PLAYBACK LIFE

Under good playing conditions (a shadowgraphed needle, such as AUDIOPOINT No. 151, and a pickup with two ounces pressure) an AUDIODISC can be played back at least one hundred times with no noticeable increase in surface noise.



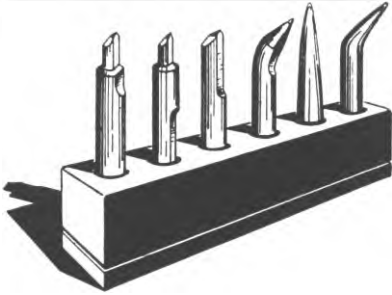
UNIFORMITY OF PRODUCT

AUDIODISCS are manufactured by a unique, automatic, precision-machine process which guarantees consistent quality and makes possible adherence to the highest standards.

Type	Description	Size (Ins.)	Price	Std. Pkge.	Code Word	Type	Description	Size (In.)	Price	Std. Pkg.	Code Word
RED LABEL	Extreme high quality PROFESSIONAL recording blanks, "acetate" coated on highly polished heavy gauge aluminum. For lateral or vertical recording in broadcasting stations, sound and motion picture studios, and all applications requiring the ultimate in disc perfection. Double-sided. Shipped in sealed cans.	6	\$0.50	50	AsurD	YELLOW LABEL	Wide latitude, high quality instantaneous recording blanks "acetate" coated on heavy gauge aluminum. Popular-priced and designed for use in radio recordings, voice and speech classes, demonstrations, sales talks, amateur and home recording. Double-sided.	6	\$0.40	12	DekrA
		8	.70	50	ArivD			8	.55	12	DilvA
		10	1.00	25	AwarD			10	.80	12	DemcA
		12	1.25	25	AplaD			12	1.00	12	DesrA
		16	2.50	25	AgreD			16	2.00	6	DelmA
MASTERS	Oversize professional master blanks. Coated smooth and flat as wax on extra thick aluminum. For making a multiplicity of copies by conventional electroplating and pressing processes. Double-sided. Shipped in sealed cans.	11 1/4	1.55	25	AvowD	BLUE LABEL	High quality instantaneous recording blanks "acetate" coated on thin-gauge aluminum. For applications where space saving, light weight and low cost are primary considerations. Dble-sided.	6	.30	12	DerbA
		12	1.55	25	AreoD			8	.45	12	DtusA
		13 1/4	2.25	25	AstnD			10	.65	12	DimeA
		17 1/4	3.75	12 & 25	AtunD			12	.85	12	DrpFA
BOND BASE	Instantaneous recording blanks "acetate" coated on heavy bond PAPER. Sound quality equal to metal base records. Shipped in cartons. One side only.	6	ea. .15	6	DrmdA	BOND BASE	Instantaneous recording blanks "acetate" coated on heavy bond PAPER. Sound quality equal to metal base records. Shipped in cartons. One side only.	6	ea. .15	6	DrmdA
		8	ea. .20	6	DrodA			8	ea. .20	6	DrodA
		10	ea. .25	6	DvhoA			10	ea. .25	6	DvhoA



AUDIPOINTS



MICROSCOPICALLY MATCHED CUTTING AND PLAYBACK POINTS

Especially Designed for Use with Audiodiscs and Other Instantaneous Recording Blanks

The quality of sound obtainable from a recording blank can be no better than the points used in its cutting and playing. Our research has established a much-needed set of cutting and playing needle standards which, if adhered to, bring out the best qualities not only of AUDIODISCS but of ALL blanks. The following data explains why AUDIPOINTS will solve your needle problems.

RELATION OF PLAYBACK TO CUTTING POINT

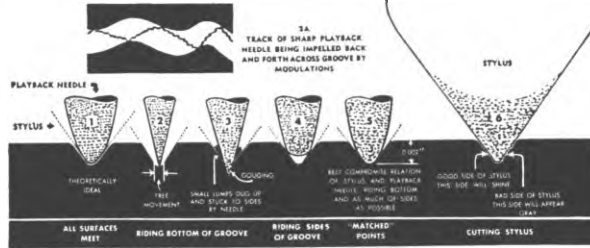
The point of a poor playback needle set in a two-ounce pickup and resting in a groove may exert on the record a unit pressure as high as several tons per square inch. This fact immediately emphasizes the important relation of groove-shape to point shape; i.e., cutting stylus to playback needle. The theoretically ideal relation of these elements would naturally be a playback point which exactly fitted the groove in which it traveled, distributing the weight over the maximum area (Sketch No. 1). This ideal is not obtainable because there can be no exact standard angle at which a playback needle rests on a record. Variations in pickup mounting, turntable heights, length of needle, and record thicknesses combine to give an infinite variety of needle angles.

If the needle is designed to ride only the bottom of the groove, due to the high unit pressure previously mentioned, it will naturally gouge into the material. It will be noted that a needle riding on the bottom of the groove has considerable freedom of movement before being stopped by the side walls (Sketch No. 2). Impelled by the changes of direction in the modulated groove, it will travel from one wall to the other tearing a ragged furrow back and forth across the bottom (Sketch No. 2A) and the roughed-out material will, in rough turns, be pushed against the side walls (Sketch No. 3). Thus the result of riding only the groovebottom

will be both a breaking down of the quality of the recording as well as a substantial insertion of surface noise.

On the other hand, if the needle rides only the side walls and does not touch the bottom, the unit pressure (though halved) is still sufficient to cause harmful scouring of the walls (Sketch No. 4). The best practical relation of groove (cutting point) to playback needle tip is therefore so to shape them that no matter at what angle the needle rests on the record it will ride the entire bottom of the groove and as great an area as possible of the side walls. In brief, cutting stylus and playback points must be matched to obtain best results.

While the specifications of almost every point manufacturer vary, AUDIPOINTS have been especially engineered to bear the proper relation to one another (Sketch No. 5), and, when used together, will give consistently good results.



AUDIO CUTTING POINTS

Audio Cutting Points are available in several types and materials to give full range to the recorder's needs.

SAPPHIRE

Sapphire, though brittle and requiring careful handling, makes the finest cutting point. It takes a fine polish, has a low coefficient of friction and is extremely long wearing. Though more expensive, it is, in view of its long life and the fact that it can be repeatedly sharpened, the most economical of stylus materials. It is especially recommended for professional and master-recording work.

STELLITE

Stellite, an extremely hard metal alloy, cuts a groove comparable to a sapphire. Stellite styli are low in first cost, have good wear life and can be repeatedly sharpened.

STEEL

Where first cost is a major consideration, good steel points can be used. The groove is not as silent and shiny as that obtained with a sapphire but is, for many purposes, entirely satisfactory. Steels must be changed often and cannot be economically resharpened.

AUDIO PLAYBACK POINTS

Manufactured and checked to specifications which bear a practically ideal relationship to Audio Cutting Points. Audio Playback Points are made in several types and give best playback results and longest life to all records.

SAPPHIRE

The finest playback needle from every standpoint is the sapphire. One sapphire AUDIO-PLAYBACK POINT will play thousands of recordings and, when finally worn, can be resharpened. Care, however, must be used in handling to prevent breakage of the brittle point, as the jagged edge of a break will seriously score the record grooves.

STEEL

The most practical playback is the shadowgraphed steel needle. Steel AUDIO-PLAYBACK-POINTS will each play dozens of instantaneous recordings without damage to the grooves because they are shaped to match AUDIO-CUTTING-POINTS. They are shadowgraphed, highly polished, and wear-resistant.

Type	Description	Point Material	Shank Material	Type No.	Price	Code Word	Type
Cutting	Every sapphire and stellite is disc-tested for perfect cutting.	Sapphire	Dural*	14	\$6.25	AcorD	Cutting
	Diamond-Lapped.....	Stellite	Dural*	34	1.50	AwarD	
	Standard.....	Steel	Steel	50	ea. .35 dz. 3.50	AvenD	
				51	dz. 2.50	AfrmD	
Playback	Microscopically MATCHED to characteristics of Audio cutting points, checked by shadowgraph.	Sapphire	Dural	113	6.00	AmorD	Play Back
	Shadowgraphed, for light pickups.....	Steel	Straight	151	100 .75	AbonD	
	For heavy pickups.....	Steel	Bent	154	100 .60	AwowD	
Resharpening	Exchange basis, no delay. Resharpened styli are disc-tested.	Sapphire	Cutting	14	2.20	AforD	Resharpening
		Stellite	Cutting	34	.70	AvisD	

* Supplied in short shank with "flat" unless long and/or round shank are specified.

AUDIPOINT PACKAGING—AUDIPOINTS are packed in specially developed, convenient boxes. Cutting styli are given extra protection, each being set in a wooden block and the tip guarded with felt. Avoid sending styli in envelopes. Where this must be done be sure to mark "Hand-Stamp Only."

SPEAK-O-PHONE RECORDING EQUIPMENT

PROFESSIONAL and SEMI-PROFESSIONAL

MODEL 88 COMPLETE RECORDER

A compact, efficient recording and playback assembly—complete in every detail—nothing else to buy. Consists of an Amplifier, Speaker, Microphone, Desk-type Stand, Motor, Turntable and Gearing Mechanism.

The amplifier has three stages of amplification using 7F7, 7C5 and 7Y4 tubes. It has been specially designed for use in conjunction with the crystal cutting head which is built in the cutting arm. Amplifier frequency range is to 5,000 cps. Power output is 4 watts.

The Ortho-acoustic speaker arrangement has been beautifully designed as an integral part of the lid of carrying case, using an 8" built-in Dynamic speaker. Playback reproduction is "wide range" in its true meaning.

Driving mechanism consists of a powerful motor specially designed for recording equipment. The turntable is driven by means of an idler gear, thus tending to cut down motor rumble and noises.

Tracking mechanism is completely positive, and is fully covered by patents.

Pickup is the latest Astatic model.

Model 88 Recorder and Playback Assembly is housed in a compact carrying case, size 15½ x 15½ x 9¾, covered by an impressive-looking simulated pigskin. Shipping weight, complete, is approximately 40 lbs. For operation on 110 volts, 60 cycle, only.



MODEL 88—List Price \$87.50
Net Dealer Price \$58.33

MODEL 1-52-A PORTABLE RECORDER

The Model 1-52-A is a complete portable recording and playback assembly consisting of Recorder, Amplifier and Playback Mechanism. It is ideal for recording voice, speech or music on either aluminum or acetate discs without changing or attaching additional gadgets or accessories. Having all the features of the custom built Speak-O-Phone, this combination recorder may be used to advantage for finest quality instantaneous recording in the school, college, home, commercial studio, broadcast station, etc.

The turntable, which is of cast iron, machined from one piece, weighs 15 pounds and is wobble-free—wows, etc., have been completely eliminated. Turntable accuracy is within .005 inches vertical, and speed accuracy is held to less than 1% variation under any conditions.

Mechanism has the finest of bronze bearings; driving is by means of bronze spiral-cut gears and large well-bearinged idler pulley. Noise level of mechanism is -33 db.

Turntable speed can be adjusted instantly to either 78 rpm. or 33½ rpm. by simply turning the idler pulley upside down on its spindle.

Model 1-52-A Portable Recorder and Assembly comes complete in carrying case with Speak-O-Phone 22X crystal microphone, floor stand, and rubber mat for turntable.

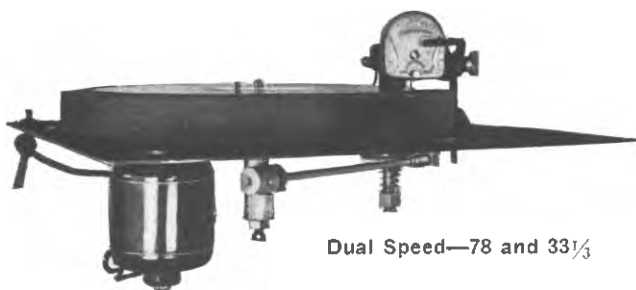


MODEL 1-52-A—List Price \$179.50
Net Dealer Price \$119.66

SPEAK-O-PHONE RECORDING EQUIPMENT

PROFESSIONAL and SEMI-PROFESSIONAL

MODEL 9-M-A RECORDING MECHANISM



Dual Speed—78 and 33 $\frac{1}{3}$

MODEL 9-M-A—List Price.....\$94.50
Net Dealer Price.....\$63.00

Model 9-M-A Basic Mechanism consists of a heavy duty special recording motor and a 15-lb. machined cast iron turntable on a heavy steel mounting board, size 15"x15". The turntable is rim-driven by means of a heavy rubber idling pulley, separately mounted, thus filtering out all motor noises and rumbles. All bearings are of heavy bronze, closely machined and held to tolerances heretofore thought unbelievable. Gears are phosphorus bronze and are spiral-cut.

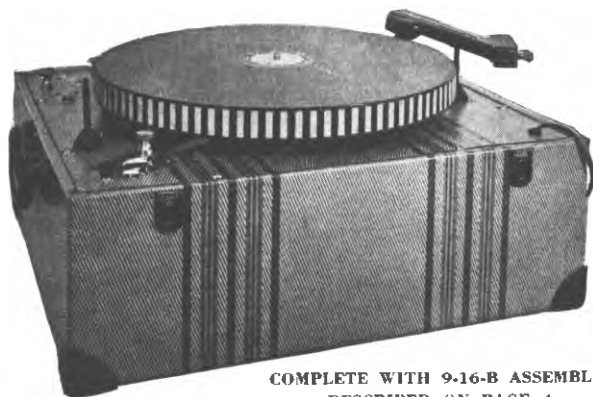
Cutting arm is equipped for recording on either acetate or aluminum discs; impedance 15 ohms. Cutting arm drive is by means of a positive friction clutch, preventing any stripping of gears or unnecessary wear on drive gears.

Model 9-M-A Mechanism comes complete with rubber pad for turntable and is finished in black crackle. Designed for operation on 110 volts, 60 cycle, only.

MODEL 9-16 RECORDING MECHANISM

This mechanism is identical to that used in our 16" Series Recorders, which means absolute quietness of drive, no pattern or period of any kind, and guaranteed extra long life for the cutting mechanism. Turntable turned out of cast iron, weighs 25 pounds. Wobble is less than one-half of one-thousandth of an inch! Lead screw diameter and pitch held to within one-tenth of one-thousandth of an inch! Motor is constant speed, 3-phase condenser-starting; diameter of shaft $\frac{3}{8}$ ". Precision-built speed changer for either 78 rpm. or 33 $\frac{1}{3}$ rpm.

Model 9-16 Mechanism comes complete in carrying case with turntable motor, playback arm and lead screw. Can be supplied with either outside-in or inside-out feed screw at no extra cost. Carrying case is of the newest type of airplane cloth, lacquered for long wear.



COMPLETE WITH 9-16-B ASSEMBLY DESCRIBED ON PAGE 4

MODEL 9-16—List Price.....\$375.00
Net Dealer Price.....\$250.00

(NOTE: If cutting head is not desired, deduct \$16.66 net.
 If playback arm is not desired, deduct \$10.00 net.)



MODEL 9-M-C—List Price.....\$135.00
Net Dealer Price.....\$90.00

MODEL 9-M-C MECHANISM

Dual Speed—78 and 33 $\frac{1}{3}$

Model 9-M-C is a 12" Recording and Playback Mechanism, complete in one case. It needs only to be connected to a good recording amplifier to turn it into a complete recording unit. It has been designed for use with P.A. amplifiers or in conjunction with any other type of complete recorder for dual turntable recording. Connections between this and other units are made by means of coupling jacks built on the mounting board.

Model 9-M-C comes complete with playback arm and rubber mat for turntable, and is housed in a fully portable heavy leatherette carrying case. Hardware is of the finest and will withstand a lot of abuse.

SPEAK-O-PHONE RECORDING EQUIPMENT

PROFESSIONAL and SEMI-PROFESSIONAL



16-INCH SERIES RECORDERS

The 16" Series Recorders are built around the finest type of turntable, motor and gear mechanism that it has been possible to produce.

TURNTABLE used on all of the 16" Series Recorders weighs 25 pounds and is turned out of cast iron. It is machined to the highest degree possible under available production methods—wobble is less than one-half of one-thousandths of one inch!

LEAD SCREW used to drive the cutting head is also machined to a very high degree of accuracy—diameter and pitch is held to one-tenth of one-thousandth of one inch! Lead Screw mounting and bearings are the finest obtainable.

MOTOR used with all 16" Series Recorders is constant speed, 3-phase condenser-starting; 1/20 horsepower. Motor speed is absolutely independent of voltage variations. Motor shaft diameter $\frac{3}{8}$ ".

TIME SCALE is built on the feed screw mechanism of the 16" Series Recorder for checking recording time. This scale is calibrated with a manual frequency compensation control on the amplifier, thus permitting the operator to compensate for frequency when recording on 16" discs.

BUILT-IN STROBOSCOPE and Neon Light permits operator to check speed constantly and to detect any variations immediately in turntable speed constancy. *The maximum possible variation in any Speak-O-Phone 16" Series Recorder is LESS THAN ONE-FIFTH OF ONE SEMITONE!*

PRECISION-BUILT SPEED CHANGER makes it possible to change speeds from 78 rpm. to $33\frac{1}{3}$ rpm. instantly. On-off switch is connected to a built-in gear shift lever on the mounting board, so that motor power is automatically turned on and off during the speed changing operation.

- The noise level of all 16" Series Recorders is held better than -36 db. as stock equipment.

- With the motor running and driving the turntable, and the pickup on its rest, the flutter as measured on any commercial flutter-meter, is not measurable.
- With the motor running and driving the turntable, and the pickup on the record, the flutter as measured on any commercial flutter-meter, is less than $2\frac{1}{2}\%$ at either 78 rpm. or $33\frac{1}{3}$ rpm.

RADIO TUNER used in conjunction with the amplifier, is a three-stage high fidelity unit. Tubes used are two 6K7's and one 6SC7. The amplifier following this tuner is high fidelity. Frequency response is within $\frac{1}{2}$ of 1 db. from 30 to 20,000 cps. Power output is 12 watts in Class A, with no measurable distortion. Maximum power possible, when used as a P.A. amplifier, is 18 watts in Class AB.

AMPLIFIER has four separate inputs: one radio, one phono, and two microphone. Three of these are electronically mixed; the other (phono) is independently controlled by its own fader. The amplifier is housed in a split case, with the amplifier and a 6" speaker enclosed in one half, and a heavy duty 12" playback speaker in the other.

MICROPHONE is a Turner high fidelity dynamic microphone, especially designed and built for studio recordings. Microphone stand weighs 10 pounds.

PICKUP—Astatic "Tru-Tan" pickup with B2 cartridge is standard equipment.

Feed screw for recording on either inside-out or outside-in, optional.

16-Inch Series Recorders

MODEL 1-16—List Price.....\$525.00
Net Dealer Price.....\$350.00

SPEAK-O-PHONE RECORDING EQUIPMENT

PROFESSIONAL and SEMI-PROFESSIONAL



MODEL 1-58 RECORDER

Dual Speed—78 and 33 $\frac{1}{3}$

Model 1-58 is similar to Model 1-52-A, except that instead of having only a recording amplifier, it has a radio-amplifier combination built in.

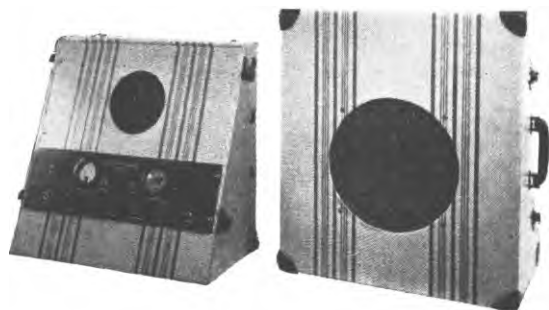
The radio-amplifier combination consists of a high gain superheterodyne tuner working into a high gain wide frequency recording amplifier. This permits the making of quality recordings either directly off the air, or by means of the microphone supply, or by dubbing from external sources.

Provisions are built in for instantly switching all of the functions of this unit.

Comes complete in portable carrying case, with latest type crystal microphone and heavy-duty floor stand. For operation on 110 volts, 60 cycles.

MODEL 1-58—List Price \$245.00
Net Dealer Price \$163.33

MODEL A-16 AMPLIFIER & RADIO TUNER



Model A-16 is an amplifier and radio tuner unit, similar in all respects to that which is used in the quality 16" Series Recorders.

High Fidelity Amplifier has four separate inputs: one radio, one phono, two microphones—three of which are electronically mixed and the other (phono) independently controlled by its own fader. Turner high fidelity dynamic microphone (mike-stand weighs 10 lbs.). Astatic "Tru-Tan" pickup with B2 cartridge. Amplifier is housed in a split case, one half containing the amplifier and a 6" speaker, the other a heavy duty 12" playback speaker.

Tuner is a three-stage high fidelity unit, using two 6K7's and one 6SC7 tube. Frequency response is within $\frac{1}{2}$ of 1 db. from 30 to 20,000 cps. Power output is 12 watts in Class A, with no measurable distortion. Maximum power possible, when used as a P.A. amplifier, is 18 watts in Class AB.

MODEL A-16—List Price \$215.00
Net Dealer Price \$143.33

MODEL 9-16-B ASSEMBLY

Model 9-16-B Cutting Arm and Lead Screw Assembly is a complete unit that can be housed with any good 16" turntable to convert it to a complete recorder. The lead screw and gears of this unit are held to within extremely close tolerances. Lead screw can be provided for operation either from outside-in or inside-out.



MODEL	LIST PRICE	NET PRICE
9-16-B—With outside-in lead screw	\$115.00	\$76.66
9-16-D—With inside-out lead screw	115.00	76.66

SPEAK-O-PHONE ACETATE COATED RECORDING DISCS

Scientifically coated and may be cut at high amplitudes; reproduces high and low frequencies with equal fidelity; uniform thicknesses, smooth surfaces—not supplied pre-grooved. Made of the latest chemical compounds. Supplied in three standard sizes:

6"	List 20c each	NET 12c each
8"	List 25c each	NET 15c each
10"	List 40c each	NET 24c each

Packed—Fifty of each size to one carton.

SPEAK-O-PHONE CUTTING NEEDLES

	List	NET
STEEL each	\$0.25	\$0.17
Package of 10	2.25	1.50
SPECIAL SAPPHIRE each	6.00	4.00
SPECIAL DIAMOND NEEDLE (for recording on aluminum)	5.00	3.33

GOULD-MOODY

Professional



THE "PERFECTED" DISC

FOR BROADCAST STATIONS
AND RECORDING STUDIOS

Size	Base Thickness	Overall Thickness	Price Each
6".....	.033	.049	\$.50
8".....	.033	.049	.70
10".....	.033	.049	1.00
12".....	.036	.052	1.25
16".....	.044	.060	2.50
11 $\frac{1}{4}$ ".....	.054	.070	1.55
13 $\frac{1}{4}$ ".....	.054	.070	2.25
17 $\frac{1}{4}$ ".....	.054	.070	3.75

Coating Thickness on Each Side .008"

RECORDING TIME CAPACITIES

Diameter	Average Playing Time Per Side			
	78 R.P.M.		33 $\frac{1}{3}$ R.P.M.	
	96 Lines Per Inch	112 Lines Per Inch	96 Lines Per Inch	112 Lines Per Inch
6".....	1.3 min.	1.6 min.	-----	-----
8".....	2.6 min.	3.0 min.	-----	-----
10".....	3.8 min.	4.5 min.	-----	-----
11 $\frac{7}{8}$ ".....	5.0 min.	5.7 min.	7 min.	8 min.
12".....	5.0 min.	5.7 min.	7 min.	8 min.
13 $\frac{1}{4}$ ".....	5.8 min.	6.8 min.	9 min.	10 min.
16".....	7.5 min.	8.8 min.	13 min.	15 min.

Designed to meet the demand for greater fidelity in recording, Gould-Moody "PERFECTED" discs "SPEAK" for themselves.

★ **Cuts cleanly**—The shavings of PERFECTED DISCS can be guided during recording and are then easily removed. This is an inherent characteristic of finest recording blanks.

★ **Surface noise eliminated**—As in all fine recording blanks, this PERFECTED DISC has no surface noise whatsoever. The groove depth is guaranteed to be constant and absolutely free from "pattern."

★ **Little pressure required**—The slightest pressure of the cutting head is sufficient for the cutting stylus to create a PERMANENT sound tract.

★ **Homogeneous coating**—The coating texture of PERFECTED DISCS is homogeneous throughout, enabling the cutting stylus to produce an even and accurate groove with absolute consistency.

★ **No static or electricity**—Static or electricity generally diverts the shavings from free and continuous flow away from the groove that is being cut. The PERFECTED record's specially compounded texture is non-conductive and flows gently away from the cutting stylus.

★ **Absolutely flat**—Irregularities in the flatness of a record blank will cause the stylus to rise and fall reducing cutting efficiency. One of the important features of the PERFECTED DISC is the fact that they are perfectly flat assuring consistency in the depth of the groove.

★ **No abrasive material**—The coating material used in the PERFECTED DISC is cured to the proper resiliency. It is neither too hard nor too soft. Painstaking inspection insures against foreign particles or imperfections.

★ **Controlled surface coating**—Specially designed machinery, electrically controlled, produces the DISC in a one-coat operation. GOULD-MOODY "PERFECTED" discs are uniformly .0075 inches thick.

★ **Mirror finished surface**—Excellent recordings are only assured when the disc has a smooth and flawless surface, no "peel" or waves.

★ **No coating variations**—Micrometric control over the coating process guards against variation in thickness of the coating.

★ **Construction**—Only the finest grade of name plate aluminum is used.



Snapshots in Sound

Popular priced, quality discs for semi-professional, experimenter and home recording applications . . .

- Made **INSTANTANEOUSLY** . . .
- can be played back **IMMEDIATELY**.

RECORDISC

Instantaneous Recording Blanks

A Well-Balanced Line with Both Cellulose Nitrate and Non-Inflammable Coatings

"HOME" recordings or "Snapshots in Sound," as we prefer to call them, are true complements to family photographic albums. In them, can be retained the baby's first words, birthday greetings, impromptu and candid moments in our lives that can never otherwise be duplicated . . . etc. . . . In a more serious vein, popular recording has proven to be almost indispensable in the teaching and study of music and speech.

THE rapid growth of this market has encouraged the development of quantity production methods with subsequent savings in costs. While quality has mounted consistently, prices have declined sharply.

"Snapshots in Sound" are now within the budgets of all average consumers.

CELLULOSE NITRATE, though highly inflammable, is conceded to be the more desirable surface coating and should be specified for semi-professional or professional requirements. However, our non-inflammable discs have been perfected to a point where comparative results are for all practical purposes substantially equal. For safety's sake, we therefore recommend our non-inflammable discs for home use. There is no difference in cost and either coating material is available in any of our standard sizes and lines.

The Semi-Professional The Economical The Amateur

Our GREEN Label

Designed primarily for schools, colleges, conservatories, orchestras, etc. These discs which are coated on a heavy alloy metal base are distinct advancements in the popular priced field. Individually wrapped, five to a carton.

Size	Price
6 1/2"	20c
8"	30c
10"	40c
12"	65c

Our RED Label

The identical surface coating is used on a thin gauge, lightweight aluminum base of .012 thickness in the 6 1/2", 8" and 10" sizes. A heavier weight approximately .022 is employed for the 12" size. Individually wrapped, five to a carton.

Size	Price
6 1/2"	20c
8"	30c
10"	40c
12"	75c

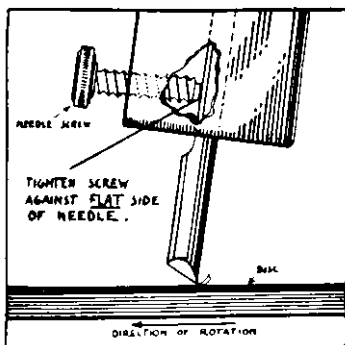
Our YELLOW Label

In order to retain a high quality standard and yet furnish a very inexpensive disc, we used the exact same coating materials employed on the "Semi-Professional" and "Economical" over a special bond base. Individually wrapped, six to a carton.

Size	Price
6 1/2"	6 for \$0.60
8"	6 for 1.00
10"	6 for 1.50

ORDER BY COLOR . . . SPECIFY CELLULOSE NITRATE OR NON-INFLAMMABLE

RECORDISC STYLUS



Proper compounding of a basic alloy and grinding to the correct angles, produce this excellent, high grade, RECORDISC cutting stylus for recording on RECORDISC blanks. It insures a clean, quiet-cut groove that reproduces faithfully the full range of sound. Packed in individual envelopes, 4 to the pack . . . \$1.00

100% SHADOWGRAPHED PLAYBACK NEEDLES



Actual Microscopic Photograph

These RECORDISC reproducing needles have been carefully designed and precision made to our rigid specifications. Highly polished, they will not wear acetate or nitrate coated records excessively, but will tend to prolong and protect their life because the tips produce considerably less friction, permitting the point to slide freely along record groove.

Packed 30 needles to the package . . . 25c

TIME CAPACITY of RECORDISCs

Diameter of Blank	Average Playing Time Per Side at 78 R.P.M.	
	96 Lines Per Inch	112 Lines Per Inch
6"	1.3 minutes	1.6 minutes
6 1/2"	2.0 minutes	2.3 minutes
8"	2.6 minutes	3.0 minutes
10"	3.8 minutes	4.5 minutes
12"	5.0 minutes	5.7 minutes

MAILING ENVELOPES for RECORDISCs & PHONOGRAPH RECORDS



RECORDISCs mailing envelopes, made of heavy Brown Kraft and lined with high test corrugated board, may be sent via parcel post or express

with absolute safety. Printed with provision for return address of sender.

For 6 1/2" size, per 100	\$6.00
For 8" size, per 100	7.50
For 10" size, per 100	9.00

DUOTONE *Needles*



FILTER POINT NEEDLE

Designed for regular phonograph shellac records such as Victor, Columbia or Decca, etc.

Plays 10 to 15 records, and has the unusual characteristic of reducing surface noise (scratch) about fifty percent, without loss of higher frequencies. Will make any good record sound practically scratchless while maintaining good brilliance of tone.

12 to package	\$.10 List
100 packages of 12, to carton	10.00 List
35 to package	.25 List
50 packages of 35, to carton	12.50 List
100 to package	.65 List
10 packages of 100, to carton	6.50 List



TRANSCRIPTION NEEDLE

Accurately shaped to prevent record wear, and shadowgraphed to insure perfection. Especially designed for acetate records, but also recommended for general use on all records, for lowest record wear, and finest frequency response. Used by broadcasting stations and recording studios.

Each needle plays about 5 to 10 records. Replace immediately if desired to play a home recorded record after standard Victor, Columbia or Decca, etc.

12 to package	\$.10 List
100 packages of 12, to carton	10.00 List
35 to package	.25 List
50 packages of 35, to carton	12.50 List
100 to package	.50 List
20 packages of 100, to carton	10.00 List



STEEL CUTTING NEEDLE

Primarily recommended for home recording... these needles cut a quiet record with good quality, but the life is limited, generally fifteen to twenty-five 10-inch records. After this, surface noise becomes too great and they have to be replaced.

Each in envelope	\$.25 List
100 needles to carton	25.00 List



STELLITE CUTTING NEEDLE

Makes an extremely quiet cut which is nearly as good as a sapphire. Will make about a hundred records, after which it may be resharpened. Less subject to breakage in the hands of inexperienced operators.

Each in envelope	\$ 1.50 List
12 needles to carton	18.00 List



SAPPHIRE CUTTING NEEDLE

This needle makes the best and most quiet cut, and has an average life of 10 hours of recording. Has special patented lapping, and can be resharpened about fifteen times.

This needle leaves a shiny groove, giving lowest surface noise. Used by most particular recordists. It is actually the cheapest needle to use because of resharpening.

These needles are fragile and must be handled very carefully. We recommend all beginners to use our Steel and Stellite needles first, and then graduate to Sapphires.

Each in envelope	\$ 5.00 List
5 needles to carton	25.00 List



SAPPHIRE CUTTING NEEDLE

Same as above but with DURAL SHANK.

Each in envelope	\$ 6.25 List
5 needles to carton	31.25 List



SAPPHIRE PLAYBACK NEEDLE

A permanent needle with a flat on the shank for correct insertion into pickup. Will play perfectly 6,000 home recorded records or 2,000 regular records, such as: Victor, Columbia or Decca, etc., with lowest wear and best frequency response.

Each in envelope	\$ 2.00 List
25 needles to carton	50.00 List



BENT SAPPHIRE NEEDLE

For use on ordinary records such as Victor, Columbia or Decca, etc. Will play over 2,000 records. This needle gives low record wear and convenience of no needle changing.

Each in envelope	\$ 1.50 List
12 needles to carton	18.00 List



DURPOINT NEEDLE

Permanent type needle, designed especially for coin machine phonographs.

Will play from 3,000 to 5,000 records without record wear or loss of tone. This needle has longer life than any other needle on the market.

Each in envelope	\$ 1.00 List
25 needles to carton	25.00 List

Thank You!

When writing for additional
information or when ordering
from sources of supply listed
in this book, please mention

*RADIO'S MASTER
ENCYCLOPEDIA*

Radio **TRIPLET** Testers

COUNTER OR PORTABLE TUBE TESTER—7" INSTRUMENT

This sensational new Tube Tester has a large six-inch scale RED DOT Lifetime Guaranteed Measuring Instrument. Filament voltages are provided in 20 steps from 1 to 110 and transformer connections are made for future tubes with voltages between these ranges. This continues Triplet's policy of providing every sensible anti-obsolence feature, and accounts for the thousands of Triplet tube testers in use today although built four or five years ago.

Model 1612 has a fully balanced RMA circuit and leakage test for Cathode and Heater and inner elements, with shorts test between any two elements, check for open filaments, and any two elements, hot leakage check, separate section test of multi-section tubes, separate plate tests of diodes and rectifiers. Other features are the noise test jack, and a separate line voltage meter, essential for settings while tube readings are taken. Tests for all types receiving tubes including Miniatures, Loctals, Bantam Single Ends, Bantam Jr., new high voltage 117Z6, etc., gaseous rectifiers and ballast tubes. The customer reads the same tests on the GOOD-RAD illuminated scale of the oversize instrument. The illuminated speed roll chart is an outstanding feature. Thirty-six tubes are visible at one time. Entire chart can be rotated in less than 4 seconds. Easy to keep up to date. Auxiliary wall chart with frequent mailings as new tubes appear also provided. Has streamlined, beautifully finished seamless heavy steel case and panel with silver grey suede baked enamel finish and maroon and chrome fittings. Size is 15 1/2" x 11 5/8" x 6".



Model 1612

Model 1612—Code—TALO—List Price\$44.75 Net Price.....\$29.84

Model 1613—Portable Style

Model 1613 is a portable tester, same as the Model 1612, but has a detachable cover with attached handle. Cover is removable permitting use as a counter tester. Case size with cover, 15 3/4" x 11 5/8" x 6 1/2".

Model 1613—Portable Tester. Code—TASSE. List Price\$52.25 Net Price.....\$34.84

NEW 25,000 OHMS PER VOLT SET TESTER

A New Sensational Set Tester—Triplet quality-made—with features that give the serviceman everything he will want.

D.C. VOLTS—0-10-50-250-500-1000-2500 at 25,000 ohms per volt. A.C. VOLTS—0-10-50-250-500-1000-2500 at 1000 ohms per volt. DIRECT CURRENT—0-50 Microamperes; 0-1-10-50-250-500 Milliampers; 0-1-2-20 Amperes. RESISTANCE—0-500 Low ohms, shunt type circuit; 0-20,000 and 0-200,000 ohms, 2 and 20 Megohms, series type circuit. CONDENSER TESTER—Ranges for capacity checking, .001 to 30 mfd. Electrolytic leakage test. FREE POINT TESTER—Makes all series and parallel meter connections. DECIBEL METER—Special chart provides Decibel readings against volts from minus 20 to plus 55. LARGE MODERNISTIC INDICATING INSTRUMENT with RED DOT Lifetime Guarantee against defects in materials or workmanship. The patented ohmmeter zero adjustment is unique in this tester. There is but one adjustment for all resistance ranges. PLUG-IN-RECTIFIER — Simplifies replacement in case of accidental damage. Case is heavy steel with black suede baked enamel finish, 14 1/2" x 7 5/8" x 4 1/2". Leather strap handle. Black, silver and red etched panel.



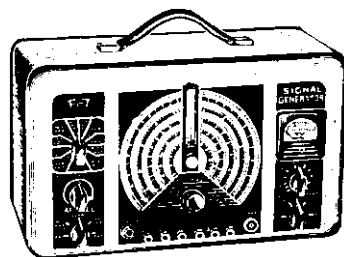
Model 1604

Model 1604—Complete with all accessories. Code—TATEX. List \$74.75..... Net \$49.84

WIDE-RANGE SIGNAL GENERATOR — MODEL 1632

Model 1632 wide-range Signal Generator provides continuous coverage of standard broadcast ranges; as well as the new high frequencies for frequency modulated and television receivers. CONTINUOUS FREQUENCY COVERAGE from 100 Kc. to 120 Mc. on 10 bands. . . . All frequencies fundamentals. METERED OUTPUT to multiplier and attenuator. HETERODYNE DETECTOR is incorporated. Permits checking the oscillator, or beating with another oscillator, without a receiver. OUTPUT AVAILABLE AT END OF CO-AXIAL CABLE. Minimizes losses and disturbance to circuit under test. PROVISION FOR EXTERNAL MODULATION at audio or radio frequencies. VOLTAGE REGULATOR TUBE . . . regulates voltage for the oscillator. Improves stability. PERMEABILITY ADJUSTMENT AND TUBULAR AIR-TRIMMER CAPACITORS are used throughout for increased accuracy and stability of calibration. LOW RESISTANCE COPPER SHIELDING and low-loss construction. Coil and trimmer assemblies and condensers shielded to minimize radiation of the unmodulated radio frequencies. POSITIVE VERNIER DIAL TUNING control . . . no backlash. ACCURACY AND STABILITY beyond anything before demanded in the test field. STREAMLINED METAL CASE with attractive rolled-edge design. Size is 15" x 9" x 6 3/4". Silver-gray suede electro-enamel finish. Snap-away handle. Beautiful three-tone panel, maroon background gray and white trim. Model 1632. Complete with accessories. A.C. operated. Code—TACIX

List Price \$119.75.....U. S. A. Dealers Net Price \$79.84



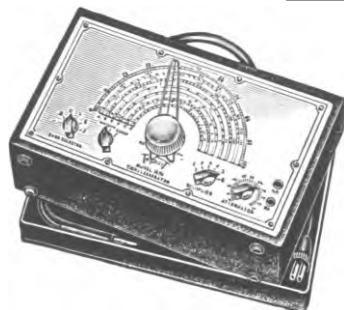
Model 1632

MODEL 1631 SIGNAL GENERATOR

Model 1631 is an outstanding ELECTRONIC FREQUENCY MODULATED Signal Generator for extreme accuracy. TRIPLE SHIELDING eliminates the most negligible leaks. COVERS 100 KC. TO 30 MC. IN SIX RANGES. Each coil is individually calibrated and tracked for linearity over the entire range. A continuously variable attenuator of the pad type offers steps from zero output to full output. FREQUENCY MODULATION is continuously variable from 5 Kc. to 40 Kc. Either CW, 400 cycle internal or external modulation. Can be used with Cathode Ray Oscilloscopes without separate frequency modulator. Metal case is 14 1/2" x 7 5/8" x 4 1/2", black suede electro enamel finish, Snapon metal cover. For 60 cycle A. C. operation. Model 1631, Complete with Accessories. Shipping weight 30 lbs. A.C. operated.

Code—TRABB

List Price \$82.50.....U. S. A. Net Price \$55.00



Model 1631

Radio



Testers

A.C.-D.C. POCKET VOLT-OHM-MILLIAMMETER



Model 666-H

Just the instrument for A.C.-D.C. voltage, direct current and resistance analyses. This handy Pocket Volt-Ohm-Milliammeter reads to 5000 volts without external multipliers. Has selector switch for all instrument readings. Molded case and panel, completely insulated. A.C.-D.C. Voltage at 1000 ohms per volt 0-10-50-250-1000-5000; D.C. Milliamperes 0-10-100-500; Resistance—0-300 ohms (shunt type circuit) 10 ohms reading at center scale; 0-250,000 ohms (series type) 3700 ohms at center scale. Higher resistance measurements are available by using external batteries. Black molded panel and case, completely insulated. Handy pocket size $3\frac{1}{2} \times 5\frac{1}{2} \times 2\frac{1}{2}$ " deep. Complete with self-contained battery and special test leads with pee wee clips.

Model 666-H—Code—TRAIB. List \$21.75 Net \$14.50

MODEL 666

Model 666 Pocket Volt-Ohm-Milliammeter is the same as Model 666-H but has the following ranges: A.C.-D.C. Volts 0-10-50-250-500-1000 at 1000 ohms per volt; 0-1-10-50-250 D.C. M.A.: Low Ohms $\frac{1}{2}$ to 300; High Ohms to 250,000.

Model 666—Code—TRYMA *4. List \$21.00 Net \$14.00

Attractive leather carrying case, Model 669, available. List \$5.50 Net \$3.67

Plug-in type external 0-25 D.C. Amp, shunt for Model 666 or 666-H. List \$3.00 Net \$2.00

MODEL 696 BATTERY TESTER



Model 696

With the Model 696, all dry batteries may be checked under their proper loads, quickly and easily.

Eleven selector switch settings enable actual INDIVIDUAL LOAD TESTS for $1\frac{1}{2}$, 3, $4\frac{1}{2}$, 6, $7\frac{1}{2}$, 9, $22\frac{1}{2}$, 45, $67\frac{1}{2}$, 90 and 135 Volt batteries. In addition to battery testing, the Model 696 can be used as a sensitive voltmeter to check on NINE D. C. VOLTAGE ranges at 1000 ohms per volt. Ranges of 2-4-8-10-25-50-75-100-150 volts. Simply changing the position of the toggle switch control permits use of the unit as a battery tester or as a sensitive voltmeter.

Pocket-size black molded case, $3\frac{1}{8} \times 5\frac{1}{8} \times 2\frac{3}{8}$ ". The metal panel is gray with black markings. Has a RED • DOT LIFETIME GUARANTEED 3-inch indicating instrument. Model 696. Complete with leads. List Price \$11.75 U. S. A. Dealer Net Price \$7.84

CASES FOR 600 SERIES LITTLE TRIPLETTS

Attractive leather carrying case for any 600 Series Little Triplet tester. Has leather handle. Holds tester and accessories. List Price \$5.50 Net Price \$3.67

Leatherette covered carrying case with individual compartments for any three Little Triplets also available. Has a separate compartment for accessories. Size $10\frac{1}{2} \times 8\frac{1}{2} \times 3\frac{1}{2}$ ". List Price \$3.75 Net Price \$2.50

MODULATION MONITOR



1696-A

Model 1696-A is easy to use. Plug it into your A. C. line—make simple coupling to the transmitter output and the monitor shows: FIRST—CARRIER REFERENCE LEVEL (only one adjustment for operating calibration.) SECOND—PER CENT OF MODULATION on specially designed high speed meter (Fast Upswing of meter pointer; Slow Downstroke.) THIRD—INSTANTANEOUS NEON FLASHER (no inertia) indicates when per cent of modulation has exceeded your predetermined setting. Setting can be from 40 to 120 per cent. Peaks of very short duration are instantly detected. Balance control permits interchangeability of tubes. Maximum efficiency from 100 to 130 volts, 50 to 60 cycle A. C. line. Use of the Monitor assists in complying with FCC regulations. Convenient switch permits reading of positive or negative peaks. Two RED • DOT Lifetime Guaranteed Triplet instruments. Modernistic metal case, $14\frac{1}{2} \times 7\frac{1}{2} \times 4\frac{1}{2}$ ", with black suede electro enamel finish. Black and white panel. Blends with standard amateur equipment in appearance.

Model 1696-A—List Price \$52.25 U.S.A. Amateur's Net Price \$34.84

FOR RACK PANEL MOUNTING

Also available as a rack panel mounting unit. The monitor is mounted in a heavy steel panel, $19 \times 10\frac{1}{2}$ ", with black wrinkle finish. List Price \$54.25 U.S.A. Amateur's Net Price \$36.18

LITTLE TRIPLETTS—A MATCHED LINE

THE "LITTLE TRIPLETTS" comprise a series of matched instruments available in single units or in combination to answer every servicing or electrical analyzing problem. Completely self-contained. All incorporate large three-inch Triplet instruments with long scales having the RED • DOT Lifetime Guarantee against defects in materials or workmanship. Red molded cases, $3\frac{1}{8} \times 5\frac{1}{8} \times 2\frac{3}{8}$ ". Panels are ivory with red markings and trim.

MODEL 670 A. C. AMMETER

This handy little tester has wide uses in countless fields. A self-contained current transformer permits measurements on those ranges: 0-1; 0-2.5; 0-5; 0-10; 0-25 A. C. Amperes. (For use on 60 cycles). List Price \$13.50 Net Price \$9.00

MODEL 671 A. C. MILLIAMMETER

Permits complete A. C. Milliamperes measurements on five ranges. Invaluable for radio servicing, laboratory and experimental work. List Price \$13.50 Net Price \$9.00

MODEL 672 A. C. VOLTMETER

A three-range A. C. Voltmeter particularly adapted to testing of electric appliances, motors, etc. The three ranges are those in which there is the most need for measurements: 0-150; 0-300; 0-750 A. C. Volts. List Price \$13.50 Net Price \$9.00

MODEL 673 A. C. VOLTMETER (Rectifier Type)

This rectifier type A. C. Voltmeter is most fine in circuits where a limited amount of power is available. Also fine for output measurements in conjunction with a condenser. Ranges: 0-5; 0-10; 0-25; 0-50; 0-100; 0-250; 0-500; 0-1000 A. C. Volts. List Price \$13.50 Net Price \$9.00

MODEL 674 D. C. AMMETER

For Direct Current measurements in five ranges from a fraction of an ampere to 25 amperes. No external shunts required. Everything self-contained. Ranges: 0-1; 0-2.5; 0-5; 0-10; 0-25 D. C. Amperes. List Price \$13.50 Net Price \$9.00

MODEL 675 D. C. MILLIAMMETER

Eight D. C. Milliampere ranges that cover all the needs in radio servicing, experimental work and checking in many other fields. Ranges: 0-1; 0-5; 0-10; 0-25; 0-100; 0-250; 0-500; 0-1000 D.C. Milliamperes. List Price \$13.50 Net Price \$9.00

MODEL 676 D. C. MICROAMMETER

Self-contained shunts for five D. C. Microampere ranges. External resistors can be used for highly sensitive voltmeter readings at 20,000 Ohms per Volt. Ranges: 0-50; 0-100; 0-250; 0-500; 0-1000 D. C. Microamperes. List Price \$13.50 Net Price \$9.00

MODEL 677 D. C. VOLTMETER

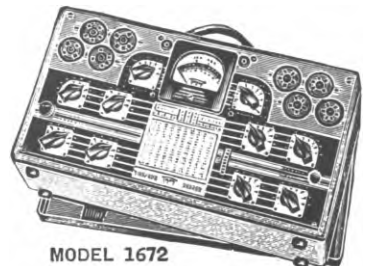
A 10-range D. C. Voltmeter with sensitivity of 1000 Ohms per Volt. All resistors self-contained. Ranges: 0-1; 0-2.5; 0-5; 0-10; 0-25; 0-50; 0-100; 0-250; 0-500; 0-1000 D.C. Volts at 1000 Ohms per Volt. List Price \$13.50 Net Price \$9.00

MODEL 678 OHMMETER

An ohmmeter with self-contained batteries for readings from .2 Ohms to 10 Megohms. Ranges: 0-1000 Ohms (10 Ohms Center Scale); 0-10,000 Ohms (100 Ohms Center Scale); 0-100,000 Ohms; 0-1 Megohm; 0-10 Megohms. List Price \$13.50 Net Price \$9.00

FLEXIBLE VIBRATOR TESTERS

COMPLETE TESTING facilities for all standard 6-volt vibrators, as used in automotive and home battery radio receivers. THREE-SCALE DIAL . . . 0-10 Volts scale shows input voltage to vibrator for start or running tests . . . Two-zone, two-color merit scale shows vibrator condition as GOOD or BAD . . . 0-100 scale permits inter-comparison of vibrator output under standardized input conditions. ADVANCED CIRCUIT developed with cooperation of leading vibrator engineers. Uses standardized 5000 Ohms-8-Mfd. load. SPEED ROLL CHART with listing of key settings. Assures quicker operation. FUSED AGAINST SHORTED VIBRATORS. ANTI-OBSOLESCENCE DESIGN Included in accessories is an adapter with leads with which it is possible to check new vibrators without waiting for instructions from the factory. Individual switches for each element afford another safeguard against obsolescence. STREAMLINED METAL CASE with blue-gray suede electro-enamel finish; $14\frac{1}{2} \times 7\frac{1}{2} \times 4\frac{1}{2}$ ". Complete with accessories.



MODEL 1672

List Price \$44.75 U. S. A. Dealer Net Price \$29.84

PUSH-BUTTON MODEL 1671

Model 1671 has the same circuit and features of Model 1672, but it is push-button operated. List Price \$59.75 U. S. A. Dealer Net Price \$39.84

Radio TRIPLET Testers

VOLT-OHM-MILLIAMMETERS



Model 1200-E

25,000 OHMS PER VOLT D.C. measurements and resistance readings to 40 megohms with this new super sensitive Volt-Ohm-Milliammeter. Instrument reads D.C.: 10-50-250-500-1000 volts at 25,000 ohms per volt; 0-50 microamperes; 1-10-50-250 milliamperes; low ohms, backup circuit, $\frac{1}{2}$ to 1000; 40,000 ohms, 4 and 40 megohms; A.C. 10-50-250-500-1000 volts. Has two RED DOT Lifetime guaranteed instruments, A.C. and D.C., in tilting type twin case. Switch contact error less than $\frac{1}{2}\%$ on milliamperes. No error on voltages. Resistance measurements have individual zero adjustments. Selector switch for all readings. Contains 22 $\frac{1}{2}$ and 1 $\frac{1}{2}$ volt batteries. Shpg. wt. 10 lbs.

1200-E Unit— Code—TWARR
List \$38.75.....Net \$25.84

Model 1200-A—Same as 1200-E but reads as follows: D.C. 10-50-250-500-1000 volts at 2000 ohms per volt; 1-10-50-250 M.A. low ohms, backup circuit, $\frac{1}{2}$ to 500; 1500 ohms, 1 $\frac{1}{2}$ and 2 megohms. A.C. 10-50-250-500-1000 volts. Shpg. wt. 10 lbs.

1200-A Unit— Code—TRIFE
List \$32.75.....Net \$21.84

Model 1200-C—Same as 1200-A but with 5000 ohms per volt D.C. suitable for AVC checking; 250 microamperes, and 7 $\frac{1}{2}$ megohms scales. Shpg. wt. 10 lbs.

1200-C Unit— Code—TRFFA
List \$34.25.....Net \$22.84

SIGNAL GENERATORS



Model 1232-A

New improvements in these Signal Generators answer the demands for reasonably priced service instruments with performance approaching that of precision laboratory equipment. Model 1232-A is for 110 volts, 60 cycles operation. Its features include: **Triple Shielding**—A new assurance of satisfaction. Top panel is insulated from R.F. Main wiring is beneath double shielded panel. Coils and the band switch are individually shielded. **Improved Attenuation Zero** for all practical purposes. **Large Dial Opening 180°**—Improves readability. Scale is 345°. Dial is direct geared, permitting quick and accurate settings. **Six Bands** cover frequencies from 115 KC to 30.5 MC. All frequencies are fundamental. **Line Filter**—Filters RF between oscillator and the line. **Six Trimmer Calibrated Coils**—For accuracy well within servicing requirements on all bands. **400 Cycle Audio Note**—obtained from panel jacks. **Improved Band Selector Switch**—for added convenience. Low loss switching. All part—low capacity. **Model 1232-A (A.C. Operated)**. Complete with accessories. Code—TAPET *18
List \$44.75.....Net \$29.84

Model 1231-A—Same as 1232-A but battery operated. Uses standard Eveready 22 $\frac{1}{2}$ V (X-163) Burgess (A-15-8T) and three flashlight coils (Eveready 93A). Replacements may be readily obtained. Complete with batteries and accessories. Code—TARDI *15
List \$41.25.....Net \$27.50

TUBE TESTER



Model 1213

Checks all receiving tubes quickly and conclusively including Loctal, Miniature, Bantam Jr., high voltage 117Z6, etc., gascon rectifier types and ballast tubes. Provision for future tubes, with filament voltages ranging from 1 to 110. Has fully balanced RMA approved circuit. Separate plate tests on diodes and rectifiers. Neon shorts test shows slightest inter-element shorts and leakages. Results show directly on the three-color GOOD-BAD scale of the RED DOT guaranteed instrument. Separate line voltage control meter, essential for making adjustments while testing. Hinged card index type tube chart is a unique development. Attached under spring clips in cover, or can be removed and fastened on wall. Sections replaceable. See case description below. **Model 1213 Code—TAMOT *14**
List \$33.00.....Net \$22.00

VACUUM TUBE VOLTMETERS



Model 1252

Self-calibrating developments plus the advantages of the tube on the end of the cable make Model 1252 the ideal instrument for high frequency measurements. Any A.C. or D.C. impulse of low magnitude can be checked easily and quickly without current drain. Ranges are 3-15-75-300 volts. The input capacity is less than six picromicrofarads. Input resistance is 10 megohms on A.C. Model 1252 is self-calibrating, an exclusive development in Triplet Vacuum Tube Voltmeters. This self-calibrating feature is automatic and controlled by the tube bridge circuit developed by Triplet engineers. Adjusting the bridge at the zero level insures exact calibration independent of tube emission values, or when replacing tubes. RED DOT Lifetime guaranteed twin instrument, tilting type, has separate D.C. movements. The galvanometer indicates when the bridge is in balance. The other is a four-range voltmeter with scales reading in peak A.C. and D.C. volts. **Model 1252**—60 cycle, A.C. 115 V. Code—TAPON *20
List \$72.50.....Net \$48.33

Model 1251—Self-Calibrating Vacuum Tube Voltmeter is the same as Model 1252, but the tube is mounted inside the case, rather than on the cable. **1251 Unit**— Code—THEKA
List \$71.50.....Net \$47.67

1200 SERIES CASES

1200 Series Cases are metal with brown suede baked enamel finish, 7 $\frac{1}{8}$ " x 6 $\frac{1}{2}$ " x 5 $\frac{1}{2}$ ". Attached leather strap handle. Modernistic durable panels are in new three-tone design.

TELEVISION AND HIGH VOLTAGE TESTER



Model 1280

Model 1280—Code—TANIA. List \$47.25.....Net \$31.50

MODEL 1220-C FREE POINT TESTER

For those who use the free point method of testing, Triplet has available an up-to-the-minute Free Point Tester Model 1220-C. Sockets to accommodate all current type receiving tubes are incorporated on the etched panel—including local and miniature. All series and parallel meter connections are made through the six sockets which have standard RMA markings. **Model 1220-C—Code—TRICH *10**. List \$20.00.....Net \$13.34
Loctal, Miniature, Bantam Jr. and Midget Adapters, \$2.50 List extra, each. (\$1.67 Net).

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AUTOMATIC VOLT - OHM - MILLIAMMETER



Model 1200-F

Push-button switching by a new, simpler way makes the Model 1200-F an entirely automatic Volt-Ohm-Milliammeter with maximum speed and minimum switching. Only one button need be pressed for any range and test setting.

D. C. VOLTS 0-10-50-250-500-1000 at 25,000 Ohms per Volt. **A. C. VOLTS** 0-10-50-250-500-1000 at 1000 Ohms per Volt. **D. C. MILLIAMPERES** 0-1-10-50-250. **D. C. MICROAMPERES** 0-50 (through separate jacks). **RESISTANCE** 0-1000 Low Ohms, shunt type circuit; 0-200,000 Ohms; 0-3 and 0-30 Megohms, series type circuit. Self-contained batteries for all ranges. **OUTPUT READINGS** available on A. C. Voltage ranges, through a built-in $\frac{1}{2}$ MFD. condenser.

This is the first tester on which only one button need be depressed to make any test. Buttons of different color for A. C. and D. C. Voltage, Current and Resistance ranges.

RED • DOT LIFETIME GUARANTEED INSTRUMENT, rectifier type. Guaranteed for all time against defects in materials or workmanship. Instrument is modernistic four-inch rectangular type with extra-long readable scales. **PLUG-IN RECTIFIER**—Simplifies replacement in case of accidental damage. Rectifiers are pre-calibrated and thoroughly impregnated after incorporation in a small molded case. **ATTRACTIVE METAL CASE** with rich brown suede enamel finish, 7 $\frac{1}{8}$ " x 6 $\frac{1}{2}$ " x 5 $\frac{1}{2}$ ". Attached strap handle for convenience in portability. Snap-on cover has elastic strap inside for carrying accessories and instructions. Striking three-tone panel in brown, tan and red. Approximate shipping weight 3 lbs. **Model 1200-F**. Complete with all accessories.
List Price \$41.75.....U. S. A. Dealer Net Price \$27.84

Radio TRIPLET Testers

FLEXIBLE TUBE TESTER



Model 1620

This sensational new Triplett counter model has every facility that could be desired including anti-oscillometer design; a new highly flexible switching system; unsurpassed beauty and customer appeal.

Every precaution is taken to provide facilities for testing tubes in the event of future changes. Individual connections for each tube element as well as a spare socket. Even in case of unanticipated radical changes in tubes, this tester need not be discarded, nor will expensive remodeling be required. This is made possible by the four separate panel sections, (socket, meter, roll chart, switching and power supply) which can be entirely replaced by anyone at nominal cost with a trade-in allowance for the old section.

FLEXIBLE SWITCHING, new lever-type, gives individual control for each tube pin. This also takes care of roaming elements, dual cathode structures, multi-purpose tubes, etc. Simply set the switch according to instructions appearing above each lever on the roll chart. Only three lever switch settings required for most tubes.

CONCLUSIVE TESTS of all present receiving tubes, Tests Gas-cool, Jet-therm tubes and has improved Ballast Tube continuity test. Noise test park incorporated. Fully balanced RMA approved circuit. **FILAMENT VOLTAGE SWITCHING** from 1.1 to 110 to take care of present and future tubes with filament voltage up to 117-volt types.

NEON SHORTS TEST, Separate plate tests on diodes and heaters.

SEPARATE LINE VOLTAGE METER permits constant observation and adjustment for line fluctuation.

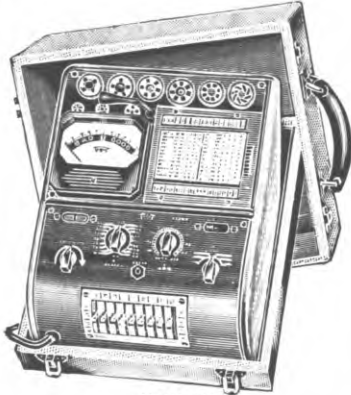
SPEED ROLL CHART simplifies testing. It can be rolled from one end to the other in less than four seconds.

RED • DOT LIFETIME GUARANTEED 7" Indicating instrument has long 6" Direct Reading, GOOD-RAD scale in colors. The wood case is of 2000-ft properties, with natural finish. Socket and switching panels are slotted with brown-stain bakelite and ivory sockets, knobs and markings. Polished metal chrome trim with in-laid color. Case size is 18 1/2" x 10 1/2" x 6 1/2".

Model 1620. For 60 cycles, 110 volts.

List Price \$56.75. U. S. A. Dealer Net Price \$37.84

PORTABLE TUBE TESTER



Model 1621

Model 1621 is a counter or portable Tube Tester similar to Model 1620 described in first column. It comes in a smaller more readily portable case. Has 4" square RED • DOT Lifetime Guaranteed Indicating Instrument with GOOD-RAD scale. Otherwise features are the same as Model 1620.

Model 1621, for counter use only, less carrying case. Size 12 1/2" x 7" x 10".

List Price \$52.25. U. S. A. Dealer Net Price \$34.84

CARRYING CASE

Sturdy two-tone tan bonded airplane type case. Purple plush lining. Heavy rubber feet on bottom of tester to fit in a case to hold it in place.

List Price \$7.50. U. S. A. Dealer Net Price \$5.00

ULTRA-SENSITIVE V-O-MA.



Model 1600-E

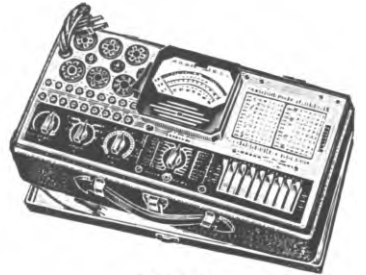
Instrument, STREAMLINED CASE is mahogany and the panel is ivory with maroon trim. Size is 14" x 9" x 4".

Model 1600-E, complete with batteries for all but 20 megohm range, and all accessories, in case. List Price \$38.25. U. S. A. Dealer Net Price \$25.50

Model 1600-E for panel mounting, less case. Otherwise same as above. Panel size is 15" x 9". With leads.

List Price \$31.50. U. S. A. Dealer Net Price \$21.00

COMBINATION TESTER



Model 1183

Three Testers in One — Volt-Ohm-Milliammeter, Tube Tester and Free Point Tester. Model 1620 and 1621. A. C. VOLTS 0-10-50-250-500-1000 D. C. at 10,000 Ohms per Volt; A. C. at 2,000 Ohms per Volt. D. C. MILLIAMPERES 0-1-10-50-250. RESISTANCE 0-500 low Ohms, shunt type circuit; 0-15,000 Ohms; 0-1.5 and 15 Megohms, series type circuit.

CONCLUSIVE TUBE TESTING, Approved RMA circuit. Employs the same operating controls as Models 1620 and 1621.

RED • DOT LIFETIME GUARANTEED 4" indicating instrument has an all-time WARRANTY against defects in materials or workmanship.

COMPLETE FREE POINT TESTER makes all series and parallel meter connections. Has sockets for all tubes; (plug adapters must be purchased separately for locals, Bantana Jr., Miniatures and Midgets if desired.)

HEAVY METAL CASE with brown suede baked enamel finish. Size 11 1/2" x 7 1/2" x 4 1/2". Leather strap handles. Beautiful three-tone panel, brown and gray. Snap-on metal cover with room for accessories. Model 1183 Combination Tester.

List Price \$74.75. U. S. A. Dealer Net Price \$49.84

Model 1182—Tube Tester only, as above.

List Price \$52.25 U.S.A. Dealer Net Price \$34.84

Model 1184—Tube Tester-Volt-Ohm-Milliammeter

List Price \$67.25. U.S.A. Dealer Net Price \$44.84

APPLIANCE TESTER (For Watts, Volts, Amperes)



Model 1270

Measures the wattage consumption, amperes and line voltage of all household appliances and small motors under actual operating conditions. Testing facilities are:

FIVE WATTMETER SCALES 0-20-500-1000-2000-10000, (10000 scale is most essential for modern range testing). **FOUR ALTERNATING CURRENT SCALES** 0-260 Milliamperes; 0-6.5-13-26 Amperes.

TWO A. C. VOLTAGE SCALES 0-150-260. All switches and leads are ample to carry full load current continuously. See Page 7 for Case description.

Model 1270, Complete with Leads for Two-Wire Circuits. List Price \$44.75. U. S. A. Dealer Net Price \$29.83

3-wire male connector cable. List. \$6.00 Net. \$4.00

3-wire female connector cable. List. \$6.00 Net. \$4.00

DUAL-INSTRUMENT APPLIANCE TESTERS

Model 2000 provides quick and accurate means of testing power consumption of radios, refrigerators, mechanical horsepower motors and household appliances under actual running conditions. Wattmeter readings 1500 watts at 250 volts; 750 watts at 110 volts. Current rating 7.5 amperes. Dual voltmeter scale reads 120-260. Leather case 6 1/2" x 4 1/2" x 3 1/2".

Model 2000— U. S. A. Dealer Net Price \$19.34

List Price \$20.00

Model 2001. Same as Model 2000 but has additional switch to permit use with any current transformer having a 5 amp. secondary, for higher range wattmeter readings.

Model 2001— U. S. A. Dealer Net Price \$20.67

List Price \$31.00

Model 2002. Same as the 2000 but has current rating of 10 amperes. Wattmeter ranges are 1500 and 3000. Voltage ranges are 120 and 260.

List Price \$29.50. U. S. A. Dealer Net Price \$19.67

PORTABLE LABORATORY

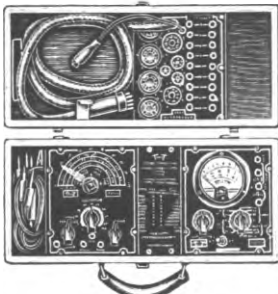
Model 1181-C Portable Laboratory combines: Volt-Ohm-Milliammeter (A.C. and D.C. Volts 0-15-75-150-750 at 1000 Ohms per volt; D.C. Ma. 1.5-15-150; A.C. Ma. 15-150; 0-1500 ohm; 1.5 and 3 megohm-); Battery operated Signal Generator with direct reading dial from 115 to 18,000 KC; Free Point Auxiliary Set Tester. (Measures Voltages, currents, resistance and continuity.) Durable etched panels. Quartered oak case with removable cover, 16 1/2" x 7 1/2" x 13 1/2". Batteries and accessories included. Shipping weight 17 lbs.

Model 1181-C— Code—TRAMA

List \$67.25. Net \$44.84

Model 1166-C (less case) Shipping weight 8 lbs. Code—TRASHI.

List \$17.75. Net \$11.84



Model 1181-C

Model 1166-C (less case) Shipping weight 8 lbs. Code—TRASHI.

List \$17.75. Net \$11.84



223,323-D.C.
233,333-A.C.



221,321,521-D.C.
231,331,531-A.C.



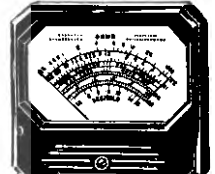
324,326,524-D.C.
334,338,534-A.C.



227-A, 327-A D.C.
237-A, 337-A A.C.



326,421-D.C.
336,421-A.C.



426 and 436

TRIPLETT D.C. INSTRUMENTS are the D'Arsonval type with extra light-weight moving coil, magnets of chrome, cobalt or alnico with uniform pole pieces and scales with maximum linearity. A.C. INSTRUMENTS are the double iron repulsion type, air damped, with extra light weight moving parts. Dynamometer type also available is a most efficient standard design.

All with two of the best sapphire jewel bearings, metal bar bridge, finest workmanship and processed in a most modern equipped factory. White enameled metal dials, milled zero adjusters. Easiest serviced instruments of any in case of accidental damage. Front and rear illumination also available. Write for information.

DIMENSIONS OF A. C. AND D. C. MODELS

Model No.	D. C.	A. C.	D. C. Code	A. C. Code	Body	Flange	Body Depth	Type Case	D. C.	A. C.	Scale Length	Case
221	231		THROW	THRAM	2 1/8" diam.	2 3/8" diam.	1 1/2"	Flush	1 23/32"	1 35/64"	Molded	
223	233		TOAST	TRUCL	2 1/16" diam.	2 5/16" diam.	1 1/2"	Clamp-on	1 23/32"	1 35/64"	Metal	
227-A	237-A		TAZZZ	TENKA	2 3/16" diam.	2 3/8" x 3/8"	1 1/2"	Flush	1 23/32"	1 35/64"	Molded—Inserts in Rear	
323	333		TACIT	TOBIT	2 3/8" diam.	3 3/16" diam.	1 1/2"	Clamp-on	2 3/8"	2 9/64"	Metal	
321	331		TRIPE	TROUT	2 3/8" diam.	3 1/8" diam.	1 1/2"	Flush	2 3/8"	2 9/64"	Molded or Metal	
324	334		TIGER	TROWL	2 3/8" diam.	3 1/16" diam.	1 1/2"	Projection	2 3/8"	2 9/64"	Metal Case—Molded Base.	
326	336		TRGAZ	TRUUI	2 3/8" diam.	3 3/8" x 2 15/16"	1 1/32"	Flush	2 3/8"	2 9/64"	Molded	
326-A	336-A		TRJFM	TROME	2 3/8" diam.	2 21/32" x 2 27/64"	1 1/32"	Flush	2 3/8"	2 9/64"	Molded—Square Type (not shown)	
327-A	337-A		TEPAT	TEPIK	2 3/8" diam.	3 1/8" x 3/8"	1 1/2"	Flush	2 3/8"	2 9/64"	Molded—Inserts in Rear	
328	338		TRQQE	TRTHH	3" diam.	3 1/8" diam.	1 21/32"	Projection	2 3/8"	2 9/64"	Metal	
421	431		TOOTH	TRINE	2 3/8" diam.	4 1/8" x 4"	1 15/16"	Flush	3 3/8"	2 7/8"	Molded	
521	531		TREES	TRIMS	4 3/8" diam.	5 1/8" diam.	1 1/2"	Flush	3 3/8"	2 7/8"	Molded	
524	534		TALOS	TUTOR	4 3/8" diam.	4 3/8" diam.	1 1/2"	Projection	3 3/8"	2 7/8"	Molded	
529	539		TUJIM	TUMKA	2 23/32" diam.	4 3/8" x 4"	1 5/8"	Flush	3 3/8"	2 7/8"	Molded—Fan Type—Inserts in Rear	
726	736		TABAM	THACK	3 1/2" diam.	6 1/2" x 3 1/2"	1 5/8"	Semi-Flush	6"	5 3/4"	Molded—Inserts in Rear (not shown)	
					4 3/8" x 2 3/8"	5 1/8" x 3 3/8"	1 1/2"	Flush			Molded	

TWIN TWIN. (See page F-6)
* portable same style as output meter illustrated page F-6.

D. C. VOLTMETERS—125 OHMS PER VOLT

Range	Code	Mods. 221-223-227-A	Mods. 321-324-327-A	Mods. 326-326-A	Mods. 421-426-529	Mods. 521-524	Mod. 726
0-5	TRCXU	\$4.50	\$5.75		\$7.50	\$8.25	
0-10	TRDWD	4.50	5.75	\$5.75	7.50	8.25	\$15.25
0-15	TRFVE	4.50	5.75				15.25
0-25	TRFUF	4.50	5.75				
0-50	TRCTC	4.50	5.75		7.50	8.25	15.25
0-100	TRHSH	4.50	5.75		7.50	8.25	15.25
0-150	TRIRI	4.50	5.75	5.75	7.50	8.25	15.25
0-300	TRLLO	6.50	8.25	8.25	9.75	12.00	19.00
0-500	TRNMN	7.75	9.25		11.00		
0-2,000	TRPKP	26.50*	23.00*		29.75*		

D. C. VOLTMETERS—1000 OHMS PER VOLT

Range	Code	Mods. 221-223-227-A	Mods. 321-324-327-A	Mods. 326-326-A	Mods. 421-426-529	Mods. 521-524	Mod. 726
0-10	TAIGA	\$6.50	\$8.25	\$8.25	\$9.75	\$11.75	\$18.75
0-150	TAINE	7.75	8.75		10.00	12.75	19.75
0-300	TRULL	8.75	10.00	10.00	11.50	14.25	21.25
0-500	TUBAL	10.00	11.00		12.75		
0-1,000	TURIN	23.50*	25.25*		27.75*		

* Price includes recommended external resistance boxes.

D. C. MILLIAMMETERS

Range	Approx. Res.	Code	Mods. 221-223-227-A	Mods. 321-324-327-A	Mods. 326-326-A	Mods. 421-426-529	Mods. 521-524	Mod. 726
0-1	.33	TRAAAN	\$5.75	\$7.00	\$7.00	\$9.00	\$10.00	\$17.00
0-15	.2	TRFFS	4.50	5.75				
0-25	1.2	TRGGT	4.50	5.75	5.75	7.50	8.25	15.25
0-50	.6	TRHHU	4.50	5.75	5.75	7.50	8.25	15.25
0-100	.3	TRJJW	4.50	5.75	5.75	7.50	8.25	15.25
0-150	.25	TRKKX	4.50	5.75	5.75	7.50	8.25	15.25
0-200	.15	TRLLY	4.50	5.75	5.75	7.50	8.25	15.25
0-250	.12	TRMMZ	4.50	5.75	5.75	7.50	8.25	15.25
0-300	.1	TRNNA	4.50	5.75	5.75	7.50	8.25	15.25
0-500	.06	TROOB	4.50	5.75	5.75	7.50	8.25	15.25

D. C. MICROAMMETERS

Range	Approx. Res.	Code	Mods. 221-223-227-A	Mods. 321-324-327-A	Mods. 326-326-A	Mods. 421-426-529	Mods. 521-524	Mod. 726
0-50	9150	TALBE		\$15.00	\$15.00	\$16.75	\$17.50	\$22.50
0-100	360	TRABA		13.00	13.00	14.75	15.50	22.50
0-200	360	TARDY		12.00	12.00	14.00	17.25	21.50
0-500	156	TWIRL	\$7.75	9.25	9.25	10.75	11.75	18.75

D. C. AMMETERS

Range	Approx. Res.	Code	Mods. 221-223-227-A	Mods. 321-324-327-A	Mods. 326-326-A	Mods. 421-426-529	Mods. 521-524	Mod. 726
0-1	.05	TALUS	\$4.50	\$5.75		\$7.50	\$8.25	\$15.25
0-10	.005	TROCK	4.50	5.75	\$5.75	7.50	8.25	15.25
0-25	.002	TANGS	4.50	5.75	5.75	7.50	8.25	15.25
30-0-30	.0016	TAPIR	4.50	5.75				

A. C. VOLTMETERS

Range	Approx. Ohms per V.	Code	Mods. 221-223-227-A	Mods. 321-324-327-A	Mods. 326-326-A	Mods. 421-426-529	Mods. 521-524	Mod. 726
0-5	10.7	TERSE	\$4.50	\$5.75	\$5.75	\$7.50	\$8.25	\$15.25
0-10	16	TRUMP	4.50	5.75	5.75	7.50	8.25	15.25
0-15	16	TURCO	4.50	5.75	5.75	7.50	8.25	15.25
0-150	110	TOYTE	5.75	7.00	7.00	9.00	10.00	17.00
0-300	166	TWEAK	7.25	8.25	8.25	9.75	15.75	22.75

A. C. AMMETERS

Range	Approx. Res.	Code	Mods. 221-223-227-A	Mods. 321-324-327-A	Mods. 326-326-A	Mods. 421-426-529	Mods. 521-524	Mod. 726
0-3	.02	TULIP	\$4.50	\$5.75		\$7.50	\$8.25	\$15.25
0-5	.01	TEUCH	4.50	5.75	\$5.75	7.50	8.25	15.25
0-10	.005	TEHEE	4.50	5.75	5.75	7.50	8.25	15.25
0-25	.001	TELEO	5.75	7.00	7.00	9.00	10.00	17.00

A. C. MILLIAMMETERS

Range	Approx. Res.	Code	Mods. 221-223-227-A	Mods. 321-324-327-A	Mods. 326-326-A	Mods. 421-426-529	Mods. 521-524	Mod. 726
0-10	1950	TEETH	\$5.50	\$6.75		\$10.00	\$11.00	\$
0-15	1125	TOUSY	4.50	5.75				
0-50	85	TEMPT	4.50	5.75		7.50	8.25	
0-100	23	THARM	4.50	5.75	\$5.75	7.50	8.25	\$15.25
0-250	4	THEEK	4.50	5.75	5.75	7.50	8.25	15.25
0-500	.8	THEOS	4.50	5.75	5.75	7.50	8.25	15.25

Measuring



Instruments

25,000 OHMS PER VOLT KITS



Model 726

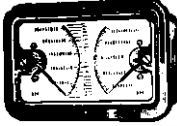
Foundation instruments with 25,000 ohms per volt sensitivity D.C. available in four styles. Have dials for reading: D.C.—0-10-50-250-1000 volts at 25,000 ohms per volt; 0-50-250 microamperes; 1-10-50-250 milliamperes; 1/2 to 500 ohms, back-up circuit; 20,000, 200,000 ohms and 2 megohms. A.C.—0-10-50-250-1000 volts at 1000 ohms per volt.

INSTRUMENTS ONLY

Model 321—Code—TEJFM. 3" Round. White dial. Shipping weight 3 lbs. List Price	\$15.00
Model 426—Code—TIGKA. 4" Square. White dial. Shipping weight 4 lbs. List Price	\$16.75
Model 521—Code—TITMA. 5" Round. White dial. Shipping weight 5 lbs. List Price	\$17.50
Model 726—Code—TOWKA. 7" Square. Black dial, scale markings in color. Unique edgewise illumination feature is regular in 7" only. Shpg. wt. 6 lbs. List Price	\$27.50

KITS (Less Instruments)

A.C.-D.C. Control Box. All necessary parts for above readings. Completely assembled in metal box. Code—THUEY. List Price	\$23.50
A.C.-D.C. Kit with Box—Furnished. Code—TRUPE. List Price	\$16.75
A.C.-D.C. Kit less Box—Assembled for mounting to panel. Code—TOOFA. List Price	\$21.75



TWIN INSTRUMENTS

THE TWIN is furnished in any combination of A.C. or D.C. instruments. Both are included in the special rectangular molded case that requires a minimum of space. Permits simultaneous readings on both instruments when connected in the same or separate circuits. Instrument scales are side by side making possible two distinct readings at a glance. Used to balance loads in three-wire circuits; detect line fluctuations when load readings are taken; measure antenna and modulation current; determine filament and plate voltages and similar applications.

To determine List Price of Twin Instruments take the sum total list price of both instruments as supplied in Models 321 or 331.

MODEL 1200-A KIT

Enables the engineer to build his own Volt-Ohm-Milliammeter. Has No. 120 Triplet Twin Instrument with scale reading: D.C. 10-50-250-500-1000 volts at 2000 ohms per volt; 1-10-50-250 milliamperes; 1/2 to 500 low ohms by back up circuit; 1500 ohms; 1.5 and 3 megohms. A.C. 10-50-250-500-1000 volts. Also included in the kit are mounted resistors and shunts for the above readings; No. 121 Special Triplet Selector Switch; No. 124 .5 MFD Condenser for output measurements; No. 125 Rheostat Assembly; Complete set of diagrams and instructions; Hook-up wire; Complete set of hardware; Marked panel plate; Test leads.

Model 1200-A KIT—Complete. Code—TRIPS. List Price	\$27.50
No. 120 Twin Instrument only—(for above kit) List Price	\$15.50

WATTMETERS—DYNAMOMETER TYPE

Outstanding new developments assure extreme ruggedness and accuracy within 2 per cent. The instruments can be used on single phase A.C. or D.C. as wattmeters. On special order they can be made up as voltmeters or ammeters. Instruments are self-contained to 300 Volts—10 Amperes. Over that external connection can be made. For use on frequencies up to 133 cycles per second. Dynamometers are available in cases to match current Triplet three-inch models: Models 361 (331) and 367-A (377-A). Case dimensions are the same except for depth, the dynamometer case being 2" back of the flange. (2-15/16" over the studs.) Wattmeters can be combined in the Triplet twin case with a voltmeter or ammeter. Available later in larger models. Standard ranges as follows:



Code	Range	Volt	Amp.	Se.	List Price	Code	Range	Volt	Amp.	Se.	List Price
TABEW	75	150	1/2	75	\$15.75	THOAC	150	300	1/2	75	\$16.75
TAMDA	150	150	1	75	15.75	THRON	300	300	1	60	16.75
TAWAB	300	150	2	60	15.75	TIABA	600	300	2	60	16.75
TEPEG	750	150	5	75	15.75	TIMAB	1500	300	5	75	18.25
THEAN	1500	150	10	75	17.50	TOBUD	3000	300	10	60	19.75

DOUBLE RANGE WATTMETERS (Double Voltage Limits Only)	
TAABO	75-150 150-300 .75 75 \$20.50
TACAB	150-300 150-300 1.5 60 20.50
TAFBO	300-600 150-300 3 60 20.50
TABOE	750-1500 150-300 7.5 75 20.50
TALDO	1500-3000 150-300 15 60 22.25

VOLT-OHM-MILLIAMMETERS

Model 321—(Scale reads 30-300-600 volts; 30-300 milliamperes; 100,000 ohms.) Code—TRIES. Shipping weight 3 lbs. List Price	\$7.50
Model 321—(Scale reads 10-50-250-500-1000 volts; 1-10-50-250 milliamperes; low ohms .2 to 500; high ohms 100 to 100,000.) Code—TABOR. Shipping weight 3 lbs. List Price	\$7.50
Model 326—(Scale reads 10-50-250-500-1000 volts; 1-10-50-250 milliamperes; low ohms .2 to 500; high ohms 100 to 100,000.) Code—TRENN. Shipping weight 3 lbs. List Price	\$7.50
Model 421—(Scale reads 10-50-250-500-1000 volts; 1-10-50-250 milliamperes; low ohms .2 to 500; high ohms 100 to 100,000.) Code—TRERE. Shipping weight 4 lbs. List Price	\$9.50
Model 521—(Scale reads 10-50-250-500-1000 volts; 1-10-50-250 milliamperes; low ohms .2 to 500; high ohms 100 to 100,000.) Code—TRILL. Shipping weight 5 lbs. List Price	\$10.50

(Wiring diagrams furnished with each instrument)

SHUNTS AND RESISTORS FOR ABOVE INSTRUMENTS

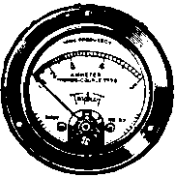
Resistors mounted on bakelite for 30-300-600 volts. Code—TRICK. List Price	\$7.25
Shunts mounted on bakelite for 30-300 milliamperes. Code—TRULL. List Price	\$2.00
Current Limiting Resistor for 100,000 ohms. Code—TRGGL. List Price	\$1.00
Resistors mounted on bakelite for 10-50-250-500-1000 volts. Code—TAMWA. List Price	\$11.00
Shunts for 1-10-50-250 milliamperes; current limiting resistors for low and high ohms (.2 to 500; 100 to 100,000); and shunt for low ohms; all mounted on bakelite. Code—TATER. List Price	\$3.50
Zero adjusting rheostat for ohms ranges. Code—TAUJM. List Price	\$1.00
Multi-Deck Selector Switch. (2 decks.) With knob. Code—TEYON. List Price	\$2.50

THERMO AMMETERS † High Frequency. Accuracy 2%

Triplet Thermo Ammeters are supplied in Models 241, 341, 346, 441 and 541. These models correspond in size, etc., to corresponding D.C. models. All have molded cases. Have external couples which withstand 50% overload connected to meter with 2 ft. leads. Couples are easily replaced when necessary. Internal couples to order. External Couples only, for any Model

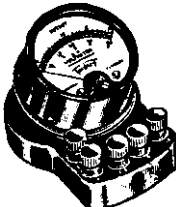
Range	Approx. Res.	Code	Model 241 List Price	Code	Model 341 List Price	Code	Model 346 List Price	Code	Model 441 List Price	Code	Model 541 List Price
0-1 Amps.	.35	TORUN	\$8.75	TONGA	\$10.00	TRUST	\$10.00	TUBER	\$11.75	TACHE	\$12.50
0-1.5 Amps.	.21	TITHE	8.75	TIZZA	10.00	THRED	10.00	TONIC	11.75	TOTAL	12.50
0-2.5 Amps.	.13	TODDY	8.75	TESTA	10.00	TWILT	10.00	TONUS	11.75	THANK	12.50
0-5 Amps.	.06	TOLYL	8.75	TOUGH	10.00	TWIST	10.00	THEOR	11.75	TOUCH	12.50

Three-Inch Models (341-346-347-A) with internal couples in any standard range. List Price, each \$6.75



OUTPUT METER

The Triplet Output Meter has 3 ranges—2.5-5-50 volts. Copper-oxide rectifier type. Contains condenser for blocking the D.C. component. Four marked bind-posts or pin jacks and meter are mounted on substantial molded base. Test leads with clips and break-in adapter furnished. Shipping weight 31 lbs. With Tip Jacks— Code—TRALL. List Price \$16.75. With Binding Posts— Code—TREEK. List Price \$16.75. Output Meter—In Master Case Code—TWYNN. List Price \$19.25.



SENSITIVE RELAYS

Highly sensitive Triplet relays are of the D'Arsonval Moving Coil type, carefully designed to give dependable, satisfactory performance. Fixed contacts of instruments are set in adjustable screws, allowing a wide adjustment of upper and lower limits of contact. Contacts furnished are Handy metal; also platinum, silver, and platinum-iridium are supplied according to applied current and voltages. These relays are generally used in connection with polarized relays when current draw exceeds 50 M.A. Magnetic clutch type with manual release can also be had. Since relays cover such a wide field and most of them are made to special order, no standard models are listed. Each application should be accompanied with information specifying maximum and minimum currents and voltages which will pass through relay coil and contact points.

POWER LEVEL INDICATORS

Used to measure sound or noise levels in amplifiers for Public Address, Theatres, Broadcasting Studios, Broadcasting Station Equipment, etc. The Decibel Meter permits the operator to make instant adjustments to prevent sound blasting or distortion. Furnished in two ways—either standard or highly damped. Standard range furnished reads up 6 and down 10 decibels, zero decibel at 1.73 volts, 500 ohm lines, 6 milliwatts. Standard damping furnished, unless highly damped is specified. Other ranges to order only.



Model 421—Up 6 down 10 Decibel Meter. Code—TROOP. List Price	\$19.75
Model 321—Up 6 down 10 Decibel Meter. Code—TAINT. List Price	11.75

DECIBEL METERS AND KITS

Kits are now available to increase range of Power Level Indicators. Readings advance in steps of 4 decibels up to 22 decibels. Easily assembled Triplet Decibel Meter Kits are supplied for non-constant impedance, 500 ohm input line. Model 150 Decibel Meter Kit (Non-constant Impedance)—includes; Triplet Model 321 Decibel Meter, Selector Switch, 9 Wire-wound Multipliers on Bakelite Mounting Board, Hook-up Wire, Diagrams and Instructions. Code—TILTH. List Price \$23.75.

We also distribute a complete line of TRIPLET Multipliers, Shunts, Ring Shunt Assemblies, Multi-Deck Selector Switches and Bar Knobs.

TUBE TESTER



Model 432-A

"The Outstanding Tube Tester Buy" of them all, Readrite's generation-old reputation for building high grade test equipment without extravagance is more pronounced than ever in the Model 432-A. A safeguard against further tube filament changes is provided by the flexible filament switching arrangement in 19 steps from 1 to 110 volts. Tester has sockets for Miniatures, Loctals, Single Ends, Bantam Jr., Gaseous Rectifiers, Ballast, all regular types and the new high voltage series 117Z6, etc. Separate plate tests on diodes and rectifiers. Neon shorts test immediately indicates the slightest shorts and leakages.

Triplett precision instrument with GOOD-BAD 3-color scale has two best quality sapphire jewel bearings. The separate line voltage meter permits constant line indication and control without switching and readjusting load controls. Professional appearing black leatherette case has handle and removable cover—suitable for counter or portable use. Size 9" x 8½" x 7". Modernistic etched panel is silver and black. Up-to-date charts are furnished to registered owners as new tubes appear. A.C. operated—110 volts, 60 cycles.

(Leatherette case) Shipping weight 18 lbs.

Model 432-A— Code—RABBI
List \$29.75 U.S.A. Dealer's Net Price \$17.85
Model 432-A in case with compartment for accessories. Code—RANDY
List \$31.40 Net \$18.85

New D.C. Pocket Volt-Ohmmeters



Models 510-511

These handy pocket-size instruments are just what you have always wanted for D.C. voltage and ohmmeter testing. Model 511 has a square Readrite meter with full open dial for reading 0-3-30-300 D.C. Volts and 0-10,000 ohms. Case is black wood, nicely finished, 2½" x 2¼" x 2". Attached leads for making connections and switching. Furnished complete with self-contained three-volt battery.

Model 511— Code—REMAX
List \$4.75 U.S.A. Dealer's Net Price \$2.85
MODEL 510

A Volt-Ohmmeter, same as the above, but with the following ranges: 0-300 D.C. Volts; 0-10,000 ohms. Complete with battery.
List \$3.75 U.S.A. Dealer's Net Price \$2.25

Pocket Volt-Ohm-Milliammeter



Model 739

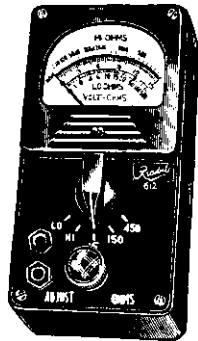
Model 739 Pocket Volt-Ohm-Milliammeter has A.C. and D.C. ranges. Molded case with rounded corners. Knob operated zero adjustment for resistance measurements. Precision Triplett three-inch meter with two highest quality sapphire jewel bearings. Furnished complete with accessories.

Ranges are A.C.-D.C. Volts 0-15-150-750-1500 (D.C. at 1000 ohms per volt); D.C. Milliamperes 0-1½-15-150; Resistance, Low Ohms, 0-500, shunt type circuit, with 25 ohms at center scale; 0-500,000 ohms, series type circuit. External batteries may be used for higher resistance measurements. The sturdy molded case has rounded corners, 3¼" x 5 7/8" x 2 1/8". Modernistic silver and black panel. All accessories including test leads, alligator clips, battery and instructions are included. Shipping weight, 5 lbs.

Model 739— Code—REACH
List \$16.50 U.S.A. Dealer's Net Price \$9.90

Model 738 is the same as Model 739 but for D.C. readings only.
List \$12.50 Net \$7.50

UNIVERSAL POCKET TESTER



Model 612

Universal wide-range A.C.-D.C. pocket-size instrument nominally priced. Ranges are A.C.-D.C. Volts 0-15-150-450 (60 ohms per volt); A.C.-D.C. Milliamperes 0-15; Resistance 0-20,000 and 0-100,000 ohms; Capacitance range .01 to 20 mfd.

Tester has Triplett repulsion type three-inch instrument with two highest quality sapphire jewel bearings. The case is black molded, 3¼" x 5 7/8" x 2 1/8", pocket size. Has selector switch for all ranges. Ohmmeter has separate zero adjustment. Current supply is from either A.C. or D.C. source by means of cord and plug. Silver and black panel. No batteries needed. Complete with leads.

Model 612— Code—RALLY
List \$13.25 U.S.A. Net Price \$7.95

MULTI-PURPOSE TESTER



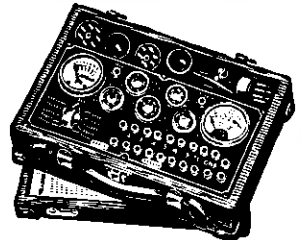
Model 432-A-742

This Tube Tester Volt-Ohm-Milliammeter combination gives the serviceman everything he could get from separate units. An outstanding quality model at a price within the reach of everyone.

Has Model 432-A Tube Tester (see opposite column). The Volt-Ohm-Milliammeter section is a separate panel with range selector switch, ohmmeter zero adjuster, and jacks. The precision three-inch indicating instrument has a sensitivity of one mil as described in Model 432-A. Volt-Ohm-Milliammeter ranges are: A.C.-D.C. Volts 0-10-50-250-2500 (D.C. at 1000 ohms per volt); D.C. Milliamperes 0-1-10-100; Resistance .5 to 500 with 25 ohms at center scale; 0-100,000 ohms and 1½ meg-ohms. Ohmmeter is battery operated. The circuit is favored by servicemen who demand more accuracy than obtained from ordinary ohmmeter power supply circuits. The case is black leatherette, with handle, 13" x 10 1/2" x 7". Has compartment for accessories. Panels are silver and black.

Model 432-A-742 (less batteries) Code REFIT
List \$46.40 U.S.A. Dealer's Net Price \$27.85

POINT-TO-POINT TESTERS



Model 720-A

Designed for speedy and efficient servicing. Equipped to handle sets using glass or glass-metal tubes. Measures resistance, capacity and continuity; checks voltage of any tube circuit. Has two meters—D.C. scale reading 15-150-300-600 volts, 15-150 milliamperes; A.C. scale reading 10-25-150 and 750 volts. Black leatherette covered case which measures 11" x 8" x 4 3/4". Shipping weight 10 pounds.

Model 720-A— Code—READY
List \$25.00 U.S.A. Dealer's Net Price \$15.00
Same as 720-A, but has Triplett 223 D.C. volt-meter with scale reading 15-150-300-600 volts at 1000 ohms per volt. Shpg. wt. 11 lbs.
Model 730-A— Code—REIGN
List \$31.00 U.S.A. Dealer's Net Price \$18.60

Similar to 720-A, but has three meters. Shipping weight 10 pounds.

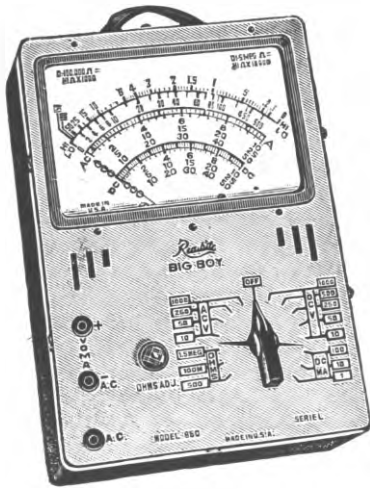
Model 710-A— Code—ROBOT
List \$27.50 Dealer's Net Price \$16.50
Same as 710-A, but has Triplett 1000 ohm per volt D.C. voltmeter; scale 15-60-300-600. Shipping weight 11 pounds.

Model 712-A— Code—REMIT
List \$37.00 Dealer's Net Price \$22.20
Local free point adapters available for the above 700 Series testers at slight additional cost.

RADIO INSTRUMENTS



TEST EQUIPMENT



MODEL 860 BIG BOY

Here is a new A.C.-D.C. Volt-Ohm-Milliammeter with all the ranges you want . . . All easily readable on the large instrument with 6-inch scale . . . The price is the kind you always have wanted on top-quality test equipment . . . This sensational new tester is engineered in keeping with the latest approved engineering practices and is styled to today's demands for professional equipment in modern color combinations.

D. C. VOLTS 0-10-50-250-500-1000 at 5000 Ohms per Volt. For the measurement of D. C. power from any source, including that of batteries, power packs, or voltage drops across resistances, or across high resistance units.

A. C. VOLTS 0-10-50-250-1000 at 1000 Ohms per Volt. An added advantage is the special chart which permits Decibel readings against volts from Minus 20 to Plus 55.

D. C. Milliampers 0-1-10-100. For the measurement of milliampers from any source to determine circuit over-loading, under-loading, or high resistance connections.

RESISTANCE 0-1500 Ohms, shunt type circuit, accurate readings to 1/2 Ohm; 0-750,000 Ohms and 0-7.5 and 0-15 Megohms, series type circuit. Measures the D. C. resistance of all component parts such as chokes, coils, condensers, connections, transformers, wiring, etc. Knob-operated zero adjustment.

SIX-INCH SCALE INSTRUMENT D'Arsonval type with two genuine sapphire jewel bearings . . . made of the finest parts, assuring accurate readings and lasting service.

THREE-TONE METAL CASE—the last word in design. Has maroon body, rich cream-yellow panel and red trim markings. Size 11 1/2" x 7 3/4" x 4 3/8". Attached handle for easy portability.

Furnished complete with instructions and accessories, including test leads. Battery provided for 0-1500 Ohms range. (22 1/2 Volt C battery is required for 750,000 Ohms and 7.5 Megohms. A second 22 1/2 Volt battery will permit checking 15 Megohms. Mounting brackets, current limiting resistors and battery connectors for the higher resistance ranges are built into the tester.)

Model 860 Readrite Big Boy Volt-Ohm-Milliammeter.

List Price . . . \$29.75
U.S.A. Dealer Net Price . . . \$17.85

MODEL 641 FREE POINT TESTER

Has sockets for handling any type receiving tubes, including the Loctal and Bantam Jr. Standard RMA markings. Eight automatic switch type and ten single action jacks. Makes all series and parallel instrument connections through the set sockets to all parts of the circuit. Complete with accessories. Approximate shipping weight 8 pounds.

Model 641—Code—RATAN
List Price \$18.25 . . . Dealer's Net Price \$10.95

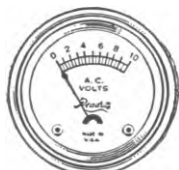


Model 540

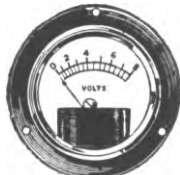
MODEL 540 SIGNAL GENERATOR

This All-Wave Direct Reading D.C. oscillator has new plug-in coils, peaked with trimmer condensers and individually calibrated to exceptionally low tolerances. Five frequency bands from 110 to 20,000 Kc.—all fundamentals. Greater accuracy is assured also by the absence of switch contacts, and short grid wire connections. Guaranteed accuracy is within all servicing requirements. Completely shielded for static and magnetic fields. Attenuation and stability are outstanding features. Strong signals, both modulated and unmodulated, are provided. Three 1 1/2 volt uncells, 45 volts of B batteries and two type 30 tubes are included with necessary accessories. Handy compartment, with snap-on cover, for accessories. Approx. shpg. wt. 11 lbs. Metal case with black electro-enamel finish. Size is 5 3/4" x 7 7/8" x 4 1/4". Silver and black panel. Leather strap carrying handle.

Model 540—Code—RAMUS
List \$32.50 . . . U.S.A. Dealers' Net Price \$19.50
Model 557 (in leatherette case.)
List \$31.50 . . . Net \$18.90



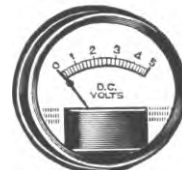
Model 55



Model 65



Model 95



Model 75



Model 85

READRITE instruments are economical, ruggedly constructed, and dependably accurate. D.C. are the polarized vane, solenoid type. A.C. are double vane repulsion type. Easy reading black lithographed on white, metal plates. Model 55, flush mounted clamp-on type, requires a 2 1/8" hole; has narrow rim and is furnished in full nickel; this model will be furnished unless other types are specified. No. 65-A flange ring

is used to convert Model 55 into Model 65 wide flange type. Dealer's Net Price . . . \$0.09

*Model 95 Square Meter—A new addition to the Readrite line. (Shown above.) Modern in design. Square case, black lacquer finish, 2 3/8" x 2 3/8". Requires 2 3/8" mounting opening. Prices \$0.35 List more in corresponding ranges.

(Prices apply to Models 55, 65, 75—Model 85, \$1.75 list extra—Model 95, \$0.35 list extra)

Range	Code	List Price	Net	Range	Code	List Price	Net	Range	Code	List Price	Net
D.C. VOLTMETERS				D.C. MILLIAMMETERS				A.C. VOLTMETERS			
0-1	Royal	\$1.00	\$0.60	0-5	Ratio	\$2.25	\$1.35	0-6	Rale	\$2.75	\$1.65
0-3	Ridge	1.00	.60	0-10	Rue	2.00	1.20	0-10	Ram	2.75	1.65
0-5	Rive	1.00	.60	0-15	Ruff	1.00	.60	0-15	Ramp	2.75	1.65
0-6	Rite	1.00	.60	0-25	Rug	1.00	.60	0-150	Rath	4.50	2.70
0-8	Road	1.00	.60	0-50	Razor	1.00	.60	0-300	Rase	5.50	3.30
0-10	Roam	1.00	.60	0-100	Rump	1.00	.60	0-750	Reck	7.75	4.65
0-15	Roar	1.00	.60	0-150	Run	1.00	.60	0-10-140	Rural	4.50	2.70
0-50	Rod	1.00	.60	0-200	Rung	1.00	.60	A.C. AMMETERS			
0-100	Roil	1.50	.90	0-300	Runt	1.00	.60	0-1	Rant	\$2.75	\$1.65
0-150	Roll	1.75	1.05	0-400	Ruse	1.00	.60	0-3	Ritz	2.75	1.65
0-150	Romp	3.25	1.95	0-20-100	Raven	2.00	1.20	0-5	Route	2.75	1.65
0-300	Rood	3.25	1.95	0-15-150	Rebel	2.00	1.20	0-10	Rast	2.75	1.65
0-500	Roof	4.50	2.70	A.C. MILLIAMMETERS				0-50	Rouge	3.75	2.25
0-60-800	Rook	4.50	2.70	0-25	Raff	\$2.75	\$1.65	SELECTOR SWITCHES			
D.C. AMMETERS				0-50	Rum	2.75	1.65	Single Pole, 13 Positions. Code—RALLS			
0-1	Repel	\$1.00	\$0.60	0-100	Rome	2.75	1.65	List Price \$1.25 . . . Net Price \$0.75			
0-3	Rot	1.00	.60	0-250	Rong	2.75	1.65	Double Pole, 12 Positions. Code—RADDS			
0-10	Rote	1.00	.60	0-500	Roost	2.75	1.65	List Price \$1.75 . . . Net Price \$1.05			
0-25	Ridd	1.50	.90	D.C. POCKET TYPE							
0-50	Rokk	2.50	1.50	40 Amp.	Rise	\$1.00	\$0.60				
20-0-20	Rud	1.00	.60	50 Volts	Risk	1.00	.60				
30-0-30	Ryky	2.00	1.20	40 A.—50 V.	Rustle	1.50	.90				

We also distribute the complete line of READRITE Selector Switches, Bar Knobs, Precision Resistors and Multipliers, Ohmmeters, Resistance Meters, Induction Ammeters, Air-Cell Testers and TUNING METERS. Special meters for battery charging, electric fences, etc.

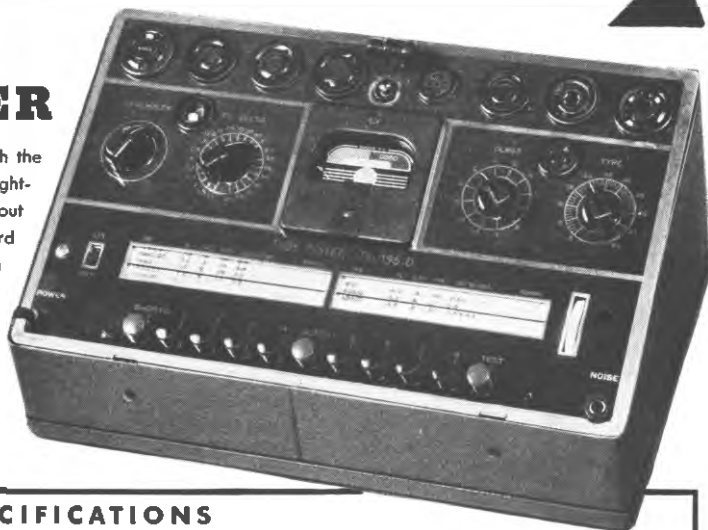


TEST EQUIPMENT

RCA TUBE TESTER

The world's greatest engineering organization, together with the world's largest radio tube manufacturer, bring you a light-weight and self-contained, push-button tube tester that is without question a long-term investment. Tests practically every standard type of radio receiving tube, including "Loktal" and Bantam base types. Also has a socket for checking miniature lamps. In addition to these features it contains two spare sockets and provisions for heater-type tubes up to 120 volts.

Simplicity of operation is achieved to a new high degree. Operates with one finger. Can be used by anyone. Contains an easy-reading roller-type chart which indicates at a glance the proper test buttons to use for a specific type.



SPECIFICATIONS

- Makes all tests according to RMA standards.
- Tests every standard type of receiving tube, including voltage-drop tests on all types of Gas Tubes such as the OA4-G, OZ4-G and 874.
- Easily read directions on roll chart. Large type with guide lines indicate proper buttons to be pressed.
- Line-voltage adjustment for 100-125 volt line.
- Indicates line voltage up to moment of actual test. Not necessary to set line voltage before inserting tube in socket.
- Spare sockets, additional roller chart space, and extra switch section minimize obsolescence.

- Power supply: 105/125 volts, 50/60 cycles; power consumption 25 watts.
- Professional appearance . . . Blue-gray wrinkle finish. Lithographed panel.
- Size . . . 13½" wide x 5¾" deep x 8" high.
- Shipping Weight—No. 156-E, 15 lbs.; No. 156-D, 17 lbs.

Net Price

- No. 156-E** Counter Type **\$37.95**
- No. 156-D** Portable Type, complete with cover and snap-out handle **\$39.95**

BEAT-FREQUENCY AUDIO OSCILLATOR

Gives a variable source of a-c voltage from 30 to 15,000 cycles—more than the band-width of the finest receivers. It has many important service applications. Particularly useful for testing loudspeakers and P-A systems, locating cabinet rattles, and for running fidelity curves on radio receivers and amplifiers. Provides choice of 3 output impedances through use of an included tapped output transformer. Has large 8¾" dial.

SPECIFICATIONS

- **Output Frequency** 30 to 15,000 cycles. ± 1 db from 30 to 10,000 cycles. Down 2 db at 15,000 cycles.
- **Output Voltage Range** 5.2 volts at 250-ohm load to 37.5 volts at no load.
- **Output Impedance** 250, 500, and 5,000 ohms.
- **Power Output** 125 milliwatts.
- **Hum Level** -60 db below maximum output.
- **Distortion** Less than 5% RMS over entire range.
- **Tube Complement** RCA-6J7 fixed r-f oscillator, RCA-6J7 audio oscillator, RCA-6CS detector, RCA-6J5 r-f amplifier, RCA-5W4 rectifier.
- **Cabinet** Attractive gray wrinkle finish with special snap handle. 9½" high x 13¾" long x 6½" wide. Shipping Weight: 19 lbs.



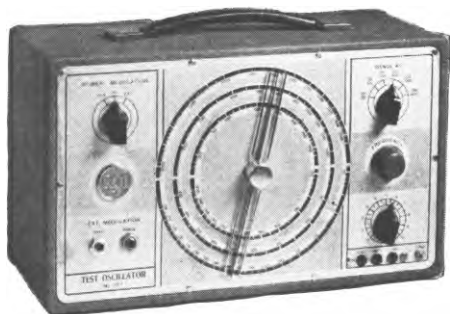
No. 154—Net Price \$49.95

NEW A-C OPERATED TEST OSCILLATOR

SPECIFICATIONS

- **R-F Range** 100 to 30,000 kc. in 6 bands—all fundamental frequencies. (Harmonics of last band may be used for U.H.F.)
- **Audio-Modulation Frequency** 400 cycles. 8 volts available for audio circuit testing.
- **Max. R-F Output Voltage** Low range, 0.01v. Medium range, 0.25v. High range, 1.0v. Minimum signal voltage, 2 microvolts.
- **Output Impedance** 10, 750, and 4,000 ohms.
- **Tube Complement** RCA-5W4 rectifier, RCA-6CS audio oscillator, RCA-6J7 r-f oscillator.
- **Power Supply** 110/120 volts, 50/60 cycles; power consumption, 30 watts. Fuse protection.
- **Cabinet** Blue-gray wrinkle lacquer. Brush and bright chrome panel. Special Snap Handle. Large, soft-rubber feet. 13¾" long x 9¼" high x 6½" wide. Shipping weight, 16 lbs.

No. 167—Net Price \$34.50



The finest low-cost test oscillator ever offered. Designed to meet every requirement for servicing most complex receivers. Adequate frequency range, unusually high output. Giant 6½" dial easily read. Calibration accuracy, 2%. High-frequency range alone covers 10-inch scale.

Oscillator includes a 36-inch, low-capacity, output-cable to connect to desired point in receiver under test. RCA metal tubes provide high circuit stability. Completely a-c operated.



TEST EQUIPMENT

ELECTRONIC SWEEP TEST OSCILLATOR

This fine oscillator not only offers every important feature for servicing all radio receivers but also has the additional highly desirable quality of having its own internal electronically operated frequency modulator for visual oscillographic alignment. This permits visual alignment of a receiver with any oscillograph, or, it may be used alone with an output indicator such as the VoltOhmyst, No. 163.

SPECIFICATIONS

- **Frequency Range** 90 to 32,000 kcs. in 6 fundamental frequency ranges.
- **Modulation Amplitude** 400 cycles at 30% modulation. Frequency adjustable from 1 to 40 kc. at a rate of 120 cycles per second. Calibrated frequency control.
- **Output Voltage** 0.25 volt, maximum, on all frequencies, with no change in frequency.
- **Output Control** 3-step attenuator, plus continuously variable control.
- **Tube Complement** RCA-6A7 as variable frequency oscillator and mixer. RCA-6F7 as fixed-frequency oscillator and 400-cycle oscillator. Two RCA-6C6's as sweep-circuit generator. One RCA-80 rectifier.



- **Dial** 4 inches in diameter. Scale length 4.5 inches. Direct reading. Indirect illumination. No parallax. Tuning ratio 5 to 1 and direct drive. Calibration accuracy, 1%.
- **Power Supply** Integral part of the oscillator. Operates from a 110/120-volt, 50/60-cycle line. Power consumption is 30 watts.



- **Cabinet** Sturdy, gray-wrinkle lacquer with nickel trim. Reversed etched, nickel-silver panel. Special Snap Handle. 13 3/4" long x 9 1/4" high x 7 1/2" deep.
 - **Shipping Weight**. 22 lbs.
- | | |
|--|------------------|
| | Net Price |
| No. 150 110/120-volts, 50/60-cycles | \$64.50 |
| No. 150A 110/120-volts, 25-cycles | 72.50 |

3-INCH CATHODE-RAY OSCILLOGRAPH

SPECIFICATIONS

- **Sensitivity** 20 volts RMS per inch, without amplifier. 0.5 volt RMS per inch, with amplifier.
- **Amplifier Response** Flat between 20 and 90,000 cycles.
- **Amplifier Gain** 40
- **Timing Axis** 15 to 22,000 cycles.
- **Tube Complement** 1 RCA-3AP1/906-P1, 2 RCA-6C6's, 2 RCA-80's, and 1 RCA-884.

- **Power Supply** 110 volts, 50/60 cycles; power consumption, 50 watts.
- **Cabinet** Blue-gray baked wrinkle lacquer with streamlined handle. 15" high x 8" wide x 14" deep.
- **Shipping Weight** No. 155, 32 lbs.

	Net Price
No. 155 110 volts, 50/60 cycles	\$63.95

A precision instrument designed to meet present-day service applications. Produces a large image, yet is compact and light weight for portability. All controls, located on front panel, are simple and easy to operate. Employs the cathode-ray tube RCA-3AP1/906-P1, an improved type having a medium persistence screen with Aquadag Coating.

2-INCH CATHODE-RAY OSCILLATOR



This fine portable instrument has every important feature needed in a modern cathode-ray oscillograph. An important feature of the unit is its tilt-mounted screen which is calibrated and easily read. All controls, including the centering controls, are located in the front panel for handy operation. High-gain amplifiers are used for both vertical and horizontal deflection to insure high sensitivity.

SPECIFICATIONS

- **Sensitivity** 0.5 volt RMS for full-scale deflection (with amplifier).
 - **Amplifier Response** Flat between 20 and 15,000 cycles.
 - **Amplifier Gain** 50.
 - **Timing Axis** 30 to 10,000 cycles (horizontal sweep).
 - **Tube Complement** 1 RCA-902 (2-inch), 1 RCA-885, 2 RCA-6C6, 1 RCA-80.
 - **Power Supply** 110/120 volts, 50/60 cycles; power consumption, 30 watts.
 - **Cabinet** Sturdy case. Gray-wrinkle lacquer with nickel trim. Reversed etched nickel-silver panel. Large, soft-rubber feet. Special Snap Handle. 13 3/4" long x 9 1/4" high x 7 3/4" deep.
 - **Shipping Weight** 25 lbs.
- | | |
|----------------------------|--------------------------|
| No. 151-2 | Net Price \$49.95 |
|----------------------------|--------------------------|

CRYSTAL (PIEZO-ELECTRIC) CALIBRATORS



The RCA Crystal Calibrators No. 157 and No. 9572 are crystal-controlled oscillators, each having two modes of oscillation and a wide range of strong, reliable harmonics. They provide laboratory accuracy for checking oscillators and receiver alignment points throughout the general radio spectrum. No. 157 is also useful for u-h-f work, including the television frequencies. Guaranteed accuracy of both calibrators is within 0.05% of specified frequency. No. 157 produces a fundamental frequency at 250 kc. and 2000 kc.; No. 9572 produces fundamentals at 100 kc. and 1000 kc. "Hi-lo" switch provided for selection of the frequency mode.

SPECIFICATIONS FOR Nos. 157 AND 9572

- **Calibration Accuracy** 2 parts in 1,000,000
 - **Temperature Coefficient** 20 cycles/1000 kc./°C.
 - **Power Supply** 110/120 volts, 50/60 cycles. Plug-in anywhere. Power consumption, 2 watts. Terminals for d-c plate supply.
 - **Tube Complement** One RCA-955 Acorn Tube
 - **Size** Only 5 1/2" x 2 7/8" x 2 3/4"
 - **Shipping Weight** 2 lbs.
- | | |
|--|------------------|
| | Net Price |
| No. 157 250 kc./2000 kc. | \$46.50 |
| No. 9572 100 kc./1000 kc. | 29.95 |



TEST EQUIPMENT

THE RIDER CHANALYST

FIRST test instrument ever offered to servicemen that checks radio receivers by dynamic and functional methods. Works with the signal without interfering with the performance of the receiver. Eliminates guesswork because it can pick up the signal at any point between antenna and loudspeaker. Will lead you directly to any source of trouble and correctly establish its character. Four channels metered at option of operator. FIVE SIMULTANEOUS CHANNELS AND FIVE ELECTRONIC EYES FOR MONITORING THOSE DIFFICULT FADERS.

SPECIFICATIONS

- **R-F and I-F CHANNEL:** Frequency Range 95 kc. to 1700 kc.
Calibration Accuracy $\pm 2\%$
Sensitivity (to close electronic eye) 50 microvolts (approx.)
- **OSCILLATOR CHANNEL:** Frequency Range 600 kc. to 15,000 kc.
Calibration Accuracy $\pm 2\%$
- **AUDIO-FREQUENCY CHANNEL:**
Frequency Range 150 cycles to 150,000 cycles
Sensitivity (to close electronic eye) 0.15 volt (approx.)
- **ELECTRONIC VOLTMETER CHANNEL:**
Voltage Range -5 to +5, -25 to +25, -100 to +100, -500 to +500
Input Impedance 11,000,000 Ohms
- **WATTAGE INDICATOR CHANNEL:** Output Indicator Magic Eye Tube
Input Range25 watts to 250 watts
- **POWER SUPPLY:**
105 volts to 125 volts, 50/60 cycles; power consumption 60 watts
- **TUBE COMPLEMENT:** 3 RCA-6K7's, 1 RCA-6H6, 4 RCA-6ES's,
1 RCA-1852, 1 RCA-76, 1 RCA-6X5G, 1 RCA-6Q7
- **SIZE:** 10 $\frac{3}{4}$ " x 16" x 9"



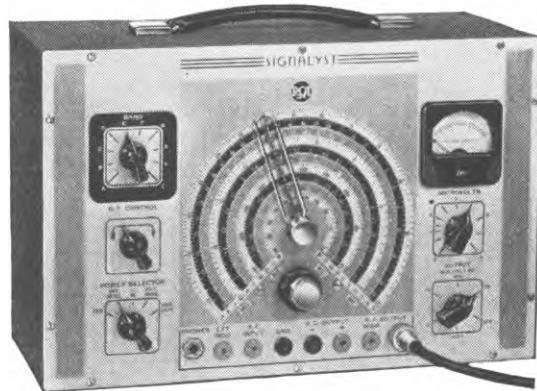
- **SHIPPING WEIGHT:** 28 lbs.
- No. 162 105-125 volts, 50/60 cycles, 60 watts **\$107.50**
- No. 162-A 105-125 volts, 25/40 cycles, 60 watts **112.50**
- No. 9897 Rack Panel Mounting and Accessories for No. 162
and No. 162-A **15.00**

RCA SIGNALYST

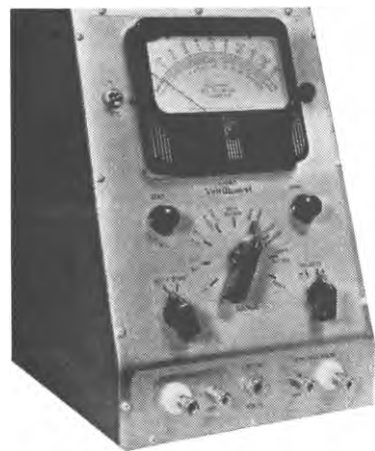
A modern signal generator that provides accurate FUNDAMENTAL frequencies from 100 Kc to 120 Mc in 10 bands. Precision laboratory design—not just another test oscillator. Tops for all radio receiver alignment jobs. Circuit consists of an oscillator stage, a buffer-modulator stage, and an output metering circuit. Handles alignment of any broadcast or special-purpose receiver. Eliminates all need for relying on unstable harmonics. Use of meter in conjunction with ladder-type attenuator, provides direct reading of output in microvolts. Designed to meet present service requirements as well as the future demands of Television, Facsimile, etc.

SPECIFICATIONS

- Total dial calibration accuracy **better than 1%**. Circuits aligned at each end of each band to within 0.05% accuracy.
- 3-color dial easy to read. Scale approx. 90° long.
- Coaxial cable output; minimizes stray leakage.
- Internal 400-cycle modulation; 400-cycle output.
- Provides broad-band modulation up to 5 Mc.
- Regulated plate- and screen-voltage supplies.
- Uses four tubes: RCA-6J5 as oscillator, RCA-6SA7 as buffer modulator, RCA-6F7 as a combination modulator and heterodyne detector, and RCA-6H6 as rectifier.



- Power supply 105-125 volts, 50/60 cycles; power consumption 35 watts.
- Highly attractive in appearance. Beautiful brush chrome metal case with convenient leather carrying handle. Panel in brush and bright chrome.
- Size 9 $\frac{3}{4}$ " H. x 8" D. x 14" L.
- Carrying weight 21 lbs.
- No. 161—Net Price **\$107.50**



THE RIDER VOLTOHMYST

A radically new combination electronic type d-c voltmeter-ohmmeter. Designed for testing radio receivers, Television equipment, laboratory circuits, facsimile, etc. Measures d-c voltages from 0.05 to 5000 volts in nine ranges. Measures resistances from 0.1 ohm to 1000 megohms in seven decade ranges. One meter reads all voltage and resistance values. Meter has but one zero-adjustment. Voltage readings accurate to 2% of full meter scale; resistance readings to 3% at center of scale.

SPECIFICATIONS

- **Voltage Ranges** 0 to 5, 10, 25, 100, 250, 500, 1000, 2500 and 5000 volts. Input resistance is 16 megohms on ranges up to 500 volts; 160 megohms on ranges up to 5000 volts.
- **Resistance Ranges** Seven decade ranges from 0.1 ohm to 1000 megohms. 10 ohms is center of scale on lowest range; 10 megohms on highest range. Logarithmic spread over 80% of scale.
- **Meter** Rugged, high torque movement; heavy alnico magnet providing high flux density; silver-etched dial; 4" scale.
- **Cabinet** Welded steel case, slope front, crystalline gray finish. Overall dimensions: 7 $\frac{1}{2}$ " W. x 8 $\frac{1}{4}$ " D. x 11" H.
- **Weight** 14 lbs.
- **Tube Complement** 2 RCA-6K6-G's and 1 RCA-6X5-G.
- **Power Supply** 105-130 volts, 25 60 cycles; power consumption 12 watts.
- No. 163—Net Price **\$57.50**



HOME ANTENNAS

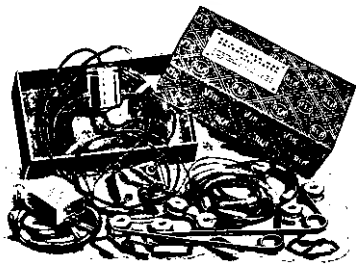
RCA Victor MASTER ANTENNA

The latest in noise-reducing antenna design. Gives the owner the ultimate in interference-free reception. Particularly useful where local noise cannot be eliminated by ordinary noise-reducing antennas. Minimizes "man-made" noise as well as static.

- Frequency Range, 540 to 23000 kc.
- Unique noise-balancing circuit can be individually adjusted for each installation.
- Noise-reducing qualities of antenna independent of antenna location.
- Particularly effective where noise is caused by local electrical device.



No. 9852 Complete, less Receiver-coupling Transformer **Net Price \$3.00**
 No. 9846 Receiver-coupling Transformer **1.17**



SPIDER WEB ANTENNA

A Transoceanic Communications Type Antenna for the home. RCA's finest antenna. Recommended especially for use in amateur and short-wave reception. The Spider Web consists of a series of doublet antennas and an improved transmission line.

- Excellent signal pick-up from 140 to 23000 kc.
- Utmost in noise reduction.
- 70000-kc range may be obtained through the use of the RCA No. 9689 High-Frequency Kit.
- Requires only a 38-foot span and vertical clearance of 12 feet.
- Factory assembled and soldered to insure simple and rapid installation.

Net Price
 No. 9685 Spider-Web Antenna . . . **\$5.37**
 No. 9689 High-Frequency Kit (Increases Range to 70000 kc) **.90**



395 ANTENNA SYSTEM

Here is a scientifically designed doublet antenna system at a price anyone can afford to pay. It assures excellent signal pick-up at a minimum cost. The only additional requirement—two supports 40 feet apart.

- Operates perfectly with receivers of any type or manufacture having antenna-ground terminals.
- Parts assembled and soldered for convenience.
- Minimizes "man-made" interference.
- Very simple to install.

CONTENTS OF KIT

2 Antenna Wire Coils—each 20 feet long, 1 Junction Box, 2 Strain Insulators, 1 Transmission Line—60 feet, 2 Coupling Unit Links, 1 Set-Coupling Unit, 2 Nail-on-Knob Insulators, 1 Ground Clamp, 1 Instruction Sheet.

Net Price
 No. 395 **\$2.37**
 No. 12855 Set-Coupling Unit for 395 and RK-40 Antennas . . . **.45**



IMPROVED MAGIC WAVE ANTENNA

A new, highly efficient noise-reducing antenna for every type of radio installation

This antenna has "everything" a radio requires. Noise reduction, installation flexibility and high signal pick-up. It is the one antenna that has all the following features:

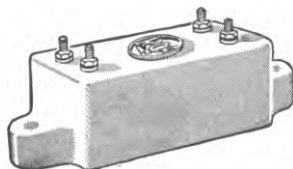
- Noise reduction on all broadcasting bands (530-23000 kc).
- Built-in lightning arrester in antenna-coupling unit.
- Operates up to 16 outlets from 1 antenna with additional coupling and distribution transformers. (Only slight reduction in signal.)
- Easily installed.
- Antenna may be from 20 to 120 feet long.
- Transmission line may be up to 500 feet in length.
- 30 foot pipe may be used for vertical antenna with underground transmission line.
- Uses magnetite-core transformers.
- Can be easily attached to existing antennas.

Net Price
 Stock No. 9812 Complete for single installation **\$3.57**
 Stock No. 9813 Set-Coupling Transformer (1 required for each additional receiver) **1.50**
 Stock No. 9814 Distribution Transformer (1 required for each 4 additional receivers) **1.80**
 Stock No. 9849 Antenna-Coupling Transformer with Built-in Lightning Arrester (for assembling your own kit) **1.20**

MAGIC WAVE ANTENNA TRANSFORMER

(With Built-in Lightning Arrester)

- Up to 16 receivers may be operated from one antenna by use of additional coupling and distribution transformers.
 - Antenna may be from 20 to 120 feet long.
 - Transmission line may be up to 500 feet long.
 - Iron pipe, 20 to 30 feet in length, may be used as a vertical antenna.
 - Easily installed. Connects to end of single-wire antenna. May be adapted to present installation.
- No. 9849 **Net Price \$1.20**



This unit, when used with No. 9813 Set-Coupling Transformer, a vertical or horizontal antenna and a transmission line, gives all the features of the RCA Magic Wave Antenna. Provides optimum signal transfer from antenna to transmission line. Minimizes background noise.



Radio Testing Equipment

MODEL 636 DYNAMIC TUBE TESTER With Built in Rotary Tube Chart

Has every feature of finest design and construction including Dynamic test method, roll chart, noise test, neon shorts test, line control, power switch, etc.

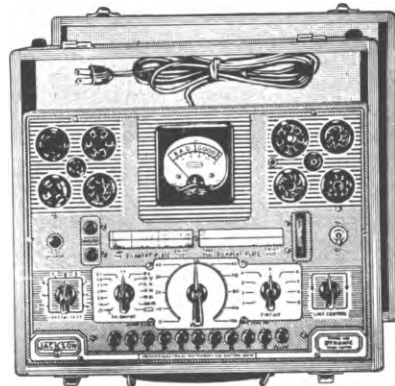
- NEW in design and performance including the latest Jackson patented switching circuits.
- MODERN in every feature of construction, appearance and operation.
- COMPLETE with every valuable feature. Up to date for all newest tube types.

SPECIFICATIONS

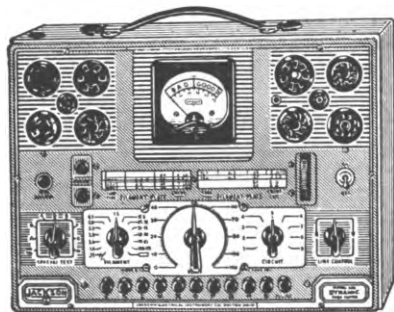
"DYNAMIC" METHOD OF TEST—Makes a better test on every tube. The "Dynamic" method is more accurate, frequently finding "poor" tubes which might pass for "good" in ordinary testers.

NEW-HIGH VOLTAGE POWER SUPPLY is a feature of this tester. By testing tubes at higher plate voltages (over 200 V. for some types), more accurate results are obtained.

TESTS ALL TUBES—ALL of the popular receiving types and television amplifiers, including BMTAMS—LOCTALS—SINGLE ENDED—HIGH VOLTAGE FILAMENT TYPES and MINIATURES. Provision for many more. The tester is protected against obsolescence in every possible feature.



Portable Style



Bench Style

ROLL CHART tube index—simplifies correct settings.

FULL RANGE FILAMENT SELECTION—From $\frac{3}{4}$ V. to 115 V. Selector marked directly in volts. This feature eliminates guess work and helps the operator to avoid mistakes.

MOST IMPROVED TYPE OF SWITCHING SYSTEM—Spare circuits and switch positions provided for future use. Two "spare" socket positions.

NOISE TEST jacks are provided for audible test of possible tube noise.

Illustrated above is the Model 636 Portable. The tester is installed in a beautiful French grey leatherette case. The hinged lid is removable. The Portable Model is recommended because of the extra convenience and added protection for instrument panel.

Dimensions: 14" long x 12" x 5 $\frac{1}{2}$ ". Wt. 11 lbs.

MODEL 636 (PORTABLE) NET CASH PRICE \$34.95

BENCH STYLE

Installed in welded steel cabinet, with sturdy handle and rubber bumpers on both base and back. Two tone grey finish. Dimensions: 13" long x 9 $\frac{1}{2}$ " x 5 $\frac{1}{2}$ ". Wt. 10 lbs.

MODEL 636-B (BENCH STYLE) NET CASH PRICE \$29.95

MODEL 637 DYNAMIC OUTPUT TUBE TESTER With Complete Universal Meter Ranges

IN THE SHOP or OUT ON THE JOB, here's the ideal tester for modern servicing. Combines 27 ranges and 10 functions including—

- 1—Dynamic Output Tube Tester—accurate, thorough.
- 2—Ballast tube tester—finds shorts or burn-outs.
- 3—High sensitivity neon continuity tester.
- 4—Condenser test for finding shorted or leaky condensers.
- 5—Multi-range A.C. Voltmeter 0-10/100/250/500/1000/2500.
- 6—Multi-range D.C. Voltmeter 0-10/100/250/500/1000/2500.
- 7—Decibel Meter—Ranges from minus 10 to plus 14/10 to 34/30 to 54.
- 8—Multi-range D.C. Milliammeter 0-1/10/100/250.
- 9—Ammeter range—0 to 10 amperes D.C.
- 10—Triple range Ohmmeter 0-3000/300,000/0-30 megohms.

AUTOMATIC PUSH BUTTON SELECTOR provides for instant use of any meter range. This new selector is remarkably fast to use and also reduces the possibility of mistakes in selecting meter ranges.

FULL RANGE FILAMENT SELECTION—From $\frac{3}{4}$ V. up to and including 115 V. Filament selector marked directly in volts at each position. This feature eliminates guess work and helps the operator to avoid mistakes.

TESTS ALL TUBES—All of the popular receiving types and television amplifiers, including BMTAMS - MINIATURES - LOCTALS - SINGLE ENDED - AND HIGH VOLTAGE FILAMENT TYPES. Provision for many more. Tester is protected against obsolescence in every possible feature of design and manufacture.

"DYNAMIC" METHOD OF TEST—Makes a better test on every tube. The "Dynamic" method is more accurate and frequently finds "poor" tubes which might pass for "good" in ordinary testers.

NEW - HIGH VOLTAGE POWER SUPPLY is a feature of this tester. By testing tubes at higher plate voltages (over 200 V. for some types), more accurate results are obtained.

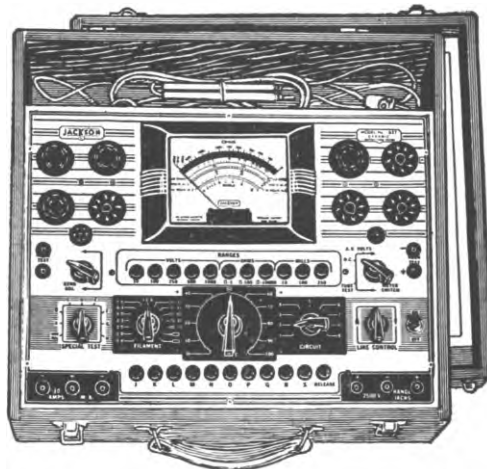
MOST IMPROVED TYPE OF SWITCHING SYSTEM—Spare circuits and switch positions are provided for future use if new or different tubes are announced. Two "spare" socket positions are provided on the tester panel.

REMARKABLY EASY TO USE—Notice the simplicity of panel and controls. The engineering is all **BENEATH THE PANEL**—you don't lose valuable time figuring out "the next move."

ILLUMINATED METER DIAL—Easy to read in any room. Panel lettering is large and distinct.

NOISE TEST jacks are provided for audible test of possible tube noise.

ALL READINGS DIRECT on "Good-Bad" Scale. No special marks for diodes, etc.



The **FULL VISION** Jackson Meter is an exclusive feature of this tester. Meter measures 6 inches over flanges. **DIAL IS ILLUMINATED.**

OAK CASE is of finest construction and has removable hinged lid. Dimensions 14 $\frac{3}{4}$ " x 13 $\frac{3}{4}$ " x 6". Weight 14 pounds.

ACCESSORIES—Furnished complete with self contained battery (for ohmmeter), and test prods.

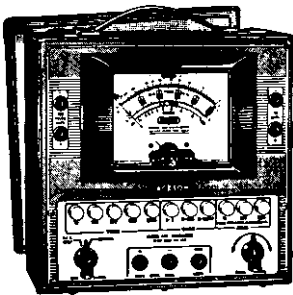
MODEL 637 NET CASH PRICE \$49.50

— CONVENIENT TIME PAYMENT TERMS —

JACKSON

Radio Testing Equipment

UNIFORM SIZE PORTABLE INSTRUMENTS PANEL SIZES ARE IDENTICAL



Model 642 UNIVERSAL MULTIMETER

20,000 Ohms Per Volt

AUTOMATIC RANGE SELECTION—PUSH BUTTON CONTROLLED. Instant selection of any meter range is made simple with the eleven key push button selector. No confusion—no mistakes. The key bank is so arranged that pressing one button automatically releases all others. All range circuits are

cleared except the range in use. Test leads remain connected to same posts at all times (except for amps. or microamps).

TWENTY-THREE RANGES — SEVEN FUNCTIONS AC/DC volts — ohms—decibels—milliamperes—microamperes and amperes. Has special built-in shunt and 10 ampere range.

OHMS RANGES from ½ ohm up to thirty megohms. No external batteries or line power required. Current readings may be made as low as 2/1000ths of one milliamper. All D.C. volts ranges are 20,000 ohms per volt.

METER RANGES—

A.C. Volts: 0-10/100/250/500/1000/5000

D.C. Volts: 0-10/100/250/500/1000/5000

Decibels: Minus 10 to plus 14/10 to 34/30 to 54

D.C. M.A.: 0-10/100/250

Microamps: 0-100

Amperes: 0-10

Ohms: 0-3000/300,000/30,000,000

The new 6-inch Full Vision JACKSON Meter has extra large, easy to read scale. Meter is six inches over flanges.

Construction is of the finest in materials and workmanship. Case is welded steel finished in grey morocco. Fitted with removable snap-on steel cover. Protects meter and controls.

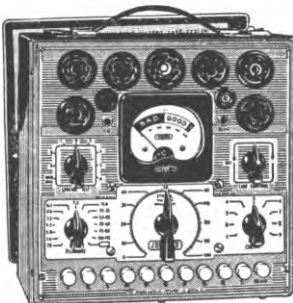
Case dimensions: 8½" x 8½" x 4½". Weight 6 lbs. Complete with self-contained battery. Furnished with test leads.

MODEL 642 NET CASH PRICE **\$39.95**

1,000 OHMS PER VOLT MODEL—Same ranges as above except microamps is 0-1000 and ohm ranges are 0-3000/300,000/3,000,000.

MODEL 643 NET CASH PRICE **\$26.95**

Model 634 TUBE TESTER



Full Range Filament Selection

From ¼ V. up to and including 115 V. Filament selector marked directly in volts at each position. This feature eliminates guess work and helps the operator to avoid mistakes.

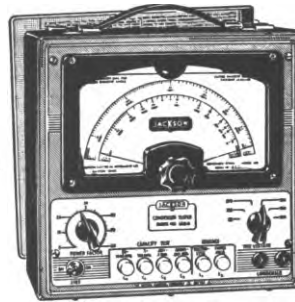
Tests All Tubes—All of the popular receiving types and television amplifiers, including Bantams - Miniatures - Loctals - Single Ended - and High Voltage Filament Types.

"Dynamic Method of Test" — Makes a better test on every tube. The "Dynamic" method is more accurate and frequently finds "poor" tubes which might pass for "good" in ordinary testers.

New - High Voltage Power Supply is a feature of this tester. By testing tubes at higher plate voltages (over 200 V. for some types), more accurate results are obtained.

Most Improved Type of Switching System—Spare circuits and switch positions are provided for future use if new or different tubes are announced. A "spare" socket position is provided on the tester panel. Case is welded steel 8½" x 8½" x 4½", finished in grey morocco. The tester is compact, light in weight and easily portable. Has metal cover which protects meter and controls.

MODEL 634 NET CASH PRICE **\$26.95**



Model 650-A CONDENSER TESTER

Range—.00001 to 1,000 mfd. **AUTOMATIC PUSH BUTTON CONTROLLED** — Amazing in speed and simplicity of use. Capacity readings almost instantaneous! Leakage test by just pressing a button.

The Model 650 is a modern, accurate and complete instrument for detecting faulty condensers — ELECTROLYTIC, PAPER or MICA. Uses a new method for Leakage Test which will reveal otherwise unnoticed condenser defects.

SCALE IS GLASS ENCLOSED and is equipped with the new Jackson **SCALE EXPANDER** indicating pointer—doubles effective scale length. New Jackson "Tricolor" Scale eliminates guesswork and errors in reading capacity values. Each scale is distinctively colored. Each test button is colored to indicate scale in use.

MEASURES ALL VALUES direct reading in Microfarads, from .00001 mfd up to 1,000 mfd.

MEASURES POWER FACTOR on direct reading dial. Power Factor range calibrated from 0 to 60%.

COMPLETE SELECTION OF TEST VOLTAGE. 20 volts to 500 volts. **ELECTRON RAY TUBE** indicates exact balance or shows if leakage is present.

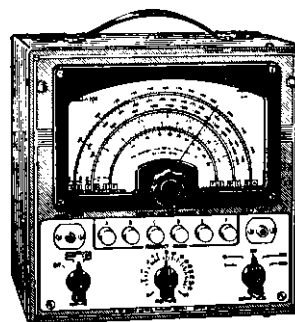
INSTANTANEOUS LEAKAGE INDICATION — counting of flashes eliminated. No other guess-work with this modern tester. Has special built-in amplifier stage which actually responds to slightest leakage, if present. Thus all leakage defects may be located.

PUSH BUTTON SELECTION—ranges and leakage selection on 6 key bank. Pressing any button releases all other ranges.

Case dimensions—8½" x 8½" x 5¼". Unit welded steel finished in grey morocco. Has removable hinged metal lid. Weight 9 lbs. Supplied complete WITH ALL TUBES.

MODEL 650 NET CASH PRICE **\$29.95**

Model 640 TEST OSCILLATOR



A complete "standard type" oscillator for all general purpose work. Has full range direct reading dial from 100 KC up to 30 Megacycles. No skips or harmonics calibrated. All ranges are fundamental frequencies. **PUSH BUTTON** selection of all ranges makes speedy and accurate operation possible. **GLASS ENCLOSED DIAL**—prevents dust and avoids possibility of damage to pointer.

TWO CIRCUIT ATTENUATOR provides variable ratio and also vernier control.

HAS POWERFUL SIGNAL output which may be used either as pure R.F. or Modulated R.F. Carrier is modulated at approximately 30%. The A.F. voltage is available for external use.

ACCURACY GUARANTEED to ½ of 1% on all ranges.

Operates from 110 volt 60 cycles. Uses three tubes (rectifier, oscillator and modulator).

Case is unit-welded steel, finished in grey morocco baked enamel. Dimensions—8½" x 8½" x 6". Wt. 9 lbs. Supplied complete with all tubes installed. Shielded cable for connection to receiver is furnished.

MODEL 640 NET CASH PRICE **\$29.95**

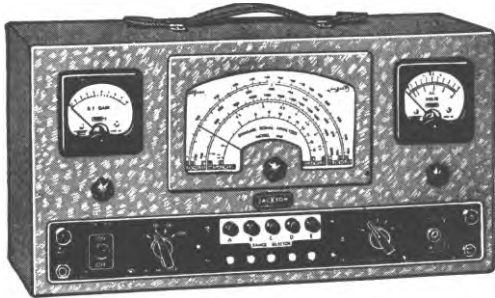
NOTE: Relay Rack Panel Mounting available for any instrument on this page.

— CONVENIENT TIME PAYMENT TERMS —

JACKSON

Radio Testing Equipment

DYNAMIC SIGNAL ANALYZER For Complete Dynamic Signal Tracing of All Receiver Circuits



A COMPLETE INSTRUMENT

The Dynamic Signal Analyzer is a complete signal tracing instrument and does not require any other equipment except a good test oscillator to apply a signal to the receiver. No "special" type of oscillator is needed.

MAKES THESE IMPORTANT TESTS (and many others)

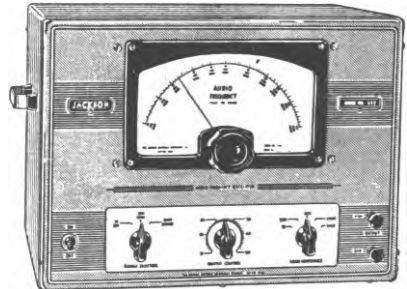
Measures R.F. Signal voltage and frequency at any point in the receiver. Instant measurement of "gain per stage" on direct reading meter. No balancing adjustments required to obtain readings. Measures Superhetrodyne oscillator voltage and frequency. Measures Audio signal at any point in the receiver. Tests performance of tubes and circuits. Locates distortion, noise or hum in the R.F. or A.F. sections of the receiver. Measures ALL voltages in the receiver—R.F. - I.F. - OSC. - A.F. - AVC - AFC - BIAS - CATHODE - PLATE - POWER SUPPLY, etc., without disturbing receiver operation. Tests condensers, resistors and inductances for proper operation in the circuit. All indications read directly on meters.

SPECIFICATIONS

Frequency Range of R.F. Voltmeter—90 kilocycles to 16 megacycles.
R.F. Gain Meter Ranges 0-10/100/1000/10,000.
Vacuum Tube Voltmeter reads A.C. or D.C. volts. Ranges 0-5/0-10/0-50/0-100/0-500. Input resistance of voltmeter—10 megohms. Maximum sensitivity of Tube Voltmeter—2,000,000 ohms per volt on 0-5 range.
Illuminated Frequency Dial and Meter scales for easy reading. Frequency scale is glass enclosed.
Sturdy construction, welded steel case finished in two tone grey. For operation on 105-125 volt, 50-60 cycle A.C. line power. Furnished complete with 7 tubes, necessary leads, and instructions ready to use.
Case Size—17" long, 8 3/4" high by 7 1/4".
Net Wt.—19 lbs. Shipping wt.—25 lbs.

MODEL 660 NET CASH PRICE **\$79.50**

AUDIO OSCILLATOR MODEL 652



The Model 652 provides an audio frequency voltage DEVELOPED AT ITS FUNDAMENTAL FREQUENCY. The basic design of the instrument is entirely different from the "beat frequency" type of Audio Oscillator.

FEATURES

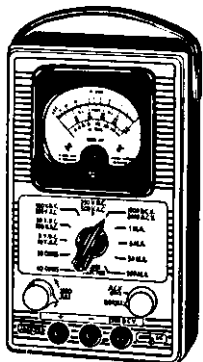
RESISTANCE CAPACITY TUNED CIRCUIT DESIGN, engineered for modern needs of audio measurements.
NO ZERO ADJUSTMENT—Tuned Fundamental Frequency method provides permanently locked calibration.
OUTPUT CHARACTERISTICS—Model 652 meets the most exacting requirements as to WAVE FORM—UNIFORM FREQUENCY CHARACTERISTIC—AND OUTPUT LOAD IMPEDANCE SELECTION. A special feature of the output system is the ten ohm tap for low impedance circuits such as speaker voice coils, etc.
COMPLETE STABILITY—The stability of frequency calibration is constant throughout the entire range. The stabilized circuit permits large changes in line voltage to occur without affecting frequency or waveform and having negligible effect on output voltage.
SIMPLIFIED OPERATION—It is only necessary to select desired FREQUENCY and OUTPUT. THERE ARE NO OTHER CONTROLS. Therefore the possibility of errors in operation is eliminated.
HIGH OUTPUT POWER—More than THREE TIMES the output power usually available from "ordinary" audio oscillators.
CONSTRUCTION—Frequency dial is glass enclosed. All controls are legibly marked. Rugged mechanical construction assures trouble-free operation under severe service conditions.

SPECIFICATIONS

Frequency Range—20 cycles to 20,000 cycles in 3 ranges. 20-200 cycles/200-2000 cycles/2000-20,000 cycles.
Accuracy—Frequency calibration accurate to within 3% or 1 cycle.
Output Impedance—Five values of output impedance 10 ohms/250 ohms/500 ohms/5000 ohms/HIGH. Controlled by selector switch.
Output Power—500 milliwatts. Continuously variable from zero to maximum.
Waveform—Less than 5% Harmonic Distortion.
Frequency Characteristic—Plus or Minus 1 DB between 30 and 15,000 cycles.
Line Voltage—105-120 Volts—50-60 Cycle A.C.
Tubes—1-80, 1-6SJ7, 2-6F6 furnished installed in instrument.
Dimensions—13" wide, 9 1/2" high, 9 3/4" deep. Wt. 26 lbs.

MODEL 652 NET CASH PRICE **\$64.50**

NEW COMPACT MULTIMETERS



Model 610

Models 610 and 615 are excellent general purpose instruments, compact in size but very complete in ranges.

The two instruments are identical in size and style. Panels are finished in attractive two tone grey with white lettering.

RANGE SELECTION—Rotary switch method saves time and reduces errors.

HIGH QUALITY METER—Three inch square type meter with two jewelled bearings.

RANGES MODEL 610:

Two Ohms Ranges—0-1000/0-500,000
Five D.C. Volts Ranges—0-5/50/100/250/1000
Four D.C.M.A. Ranges—0-1/5/50/250

RANGES MODEL 615—Same as Model 610 except has additional ranges of:

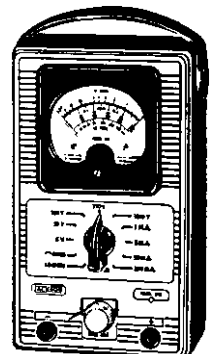
Five A.C. Volts Ranges—0-10/100/200/500/2000
Additional High Voltage D.C. Range—0-2500 v.

Each instrument supplied complete with self-contained battery for ohm ranges. Test leads not included.

Dimensions: 7" x 4 1/4" x 3".

MODEL 610 NET CASH PRICE **\$10.95**

MODEL 615 NET CASH PRICE **\$15.95**



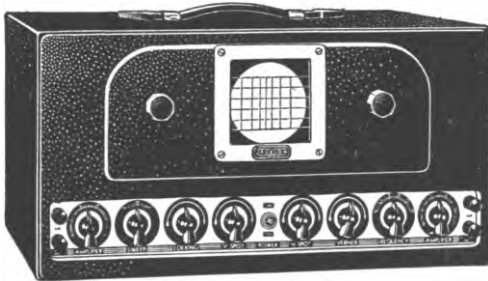
Model 615

— CONVENIENT TIME PAYMENT TERMS —



Radio Testing Equipment

3" OSCILLOGRAPH Model 523



EVERY VALUABLE FEATURE IS INCLUDED:

- Vertical Amplifier and Horizontal Amplifier
- Calibrated Linear Timing Circuit
- Frequency Control and Vernier
- Automatic "Lock-in" Control
- Spot and Focus Controls on Main Panel
- Calibrated Screen

SPECIFICATIONS

SENSITIVITY—The input sensitivity to vertical plates is 4/10 of one volt R.M.S. per inch of deflection. This sensitivity is secured by means of high gain amplifiers having a frequency range to 100 kilocycles.

HORIZONTAL SWEEP—A horizontal time axis "sawtooth" oscillator provides a frequency from 20 to 20,000 cycles. Frequencies up to 100,000 cycles may readily be inspected, resulting in a five pattern image. Timing frequency range switch is marked directly in frequency. This feature greatly simplifies the selection of a desired frequency range.

CONSTRUCTION—Design and construction are practical in every respect. This oscillograph is a perfect companion unit for the new Jackson Universal Oscillator. The main panel is cast aluminum. The entire cabinet is heavy gauge steel construction. The instrument is attractively finished in grey morocco, oven-baked enamel. The control plates are etched with white background and black characters. The very finest of materials and construction are employed throughout.

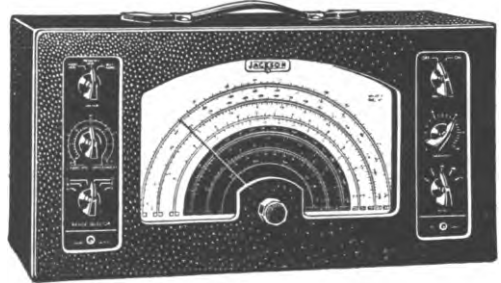
POWER SUPPLY & TUBES—Operates from 110-volt, 50-60 cycle power supply. The Model 523 is supplied complete with 3-inch Cathode Ray Tube, two type 57, one type 885 and two type 80.

MODEL 523

NET CASH PRICE

\$59.50

UNIVERSAL OSCILLATOR Model 420



PERFORMANCE FEATURES

- FULL RANGE**—100 K.C. to 30 M.C.
- ALL DIRECT READING**—no charts of any kind.
- VARIABLE PER CENT OF MODULATION**—calibrated from 0 to 100%.
- FREE FROM SPURIOUS HARMONICS**—on amplitude modulated bands.
- MAY BE EXTERNALLY MODULATED**—with phono pickup, etc.
- ELECTRONIC FREQUENCY MODULATION**—no moving parts of any kind.
- VARIABLE BAND WIDTH Frequency Modulation**—0-40 K.C.
- POWERFUL SIGNAL OUTPUT**—all air tuned circuits

Large easy to read dial, glass enclosed. Two colored scale to separate amplitude bands from Frequency Modulated bands. Consists of two oscillators built into one simplified instrument.

- 1—Complete "Standard Type" of Oscillator. This feature permits the use of the oscillator for all general purpose work. Eliminates the guess work and errors formerly created by spurious signals set up by beat frequency operation.
- 2—Complete "Frequency Modulated" Oscillator—Pure electronic frequency sweep provides the familiar "double-image" method of alignment. Absolutely no moving parts of any kind. Perfectly balanced and easy to use.

The Model 420 makes accurate alignment of any radio set an easy job. This is possible only because the 420 is actually two instruments in one. With the standard type of signal a line-up job can be started with known accuracy—confusion is eliminated. After the line-up has been started, the oscillograph pattern is then obtained by using the frequency modulated signal of the 420.

CONSTRUCTION FEATURES—Each of the six bands is separately calibrated both for correct inductance and capacitance. The dial is extra large and all ranges are direct reading. The fundamental frequency coverages is continuous from 100 K.C. to 30 M.C. A range selector switch provides for instant use of any desired band.

DIMENSIONS—17" x 8 3/4" x 8". Weight 20 lbs.

ACCESSORIES—Complete with all tubes and cable for oscillograph.

MODEL 420

NET CASH PRICE

\$59.50

NEW "SERVICE LAB" FEATURES

Jackson 1941 Service Lab units are the result of careful study of modern service bench needs. **STREAMLINED**—Angled front panel for easy visibility of each test instrument. This new styling makes the Service Lab more convenient in use and attractive in appearance.

EXTRA ACCESSORY PANEL—Every Lab is equipped with this feature. The accessory panel (see illustration) is already machined for easy installation of any special test features you might wish to add. This is actually a "custom built" feature—yet is included at no extra cost with each Jackson Service Lab.

INTERCHANGEABLE PANELS—Standard Relay Rack Size Panels—a feature originated by Jackson several years ago in the first "Service Labs."

FLUORESCENT LIGHTING—(Optional)—This ultra modern lighting feature available with any Service Lab shown in this catalog. (See illustration.) Each Lab is already equipped with mounting provisions for the Jackson Fluorescent Lab Lamp.

A.C. SWITCH and OUTLETS—Each Lab is completely wired ready for use. Has two A.C. outlets and master switch on front panel. Also four A.C. outlets for installed instruments.

Model 800 "Service Lab"

Illustrated at left is the new complete Radio Testing Laboratory. A true "Super Service" test unit backed by the Jackson Guarantee of Quality and Performance. Contains four separate instruments. Each is a complete portable instrument in itself and may be removed easily.

- Model 634 Tube Tester.
- Model 642—20,000 ohm per V. Multimeter.
- Model 640 Oscillator.
- Model 650-A Condenser Tester.

Full Dimensions 20" wide by 31 3/4" high by 16 1/2" deep.

MODEL 800

NET CASH PRICE

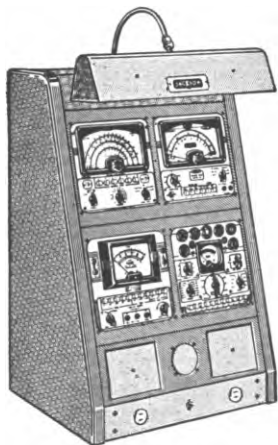
\$139.50

JACKSON FLUORESCENT LAB LAMP \$6.00 ADDITIONAL

LAB LAMP (REGULAR INCANDESCENT LAMPS) \$2.85 ADDITIONAL

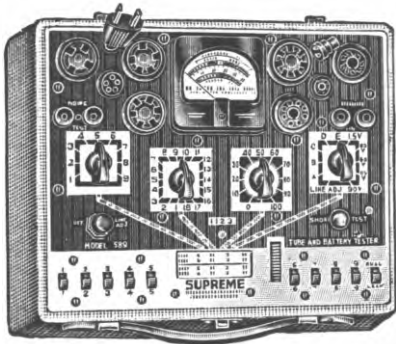
MORE THAN 20 OTHER SERVICE LABS AVAILABLE—ASK US ABOUT THEM!

— CONVENIENT TIME PAYMENT TERMS —

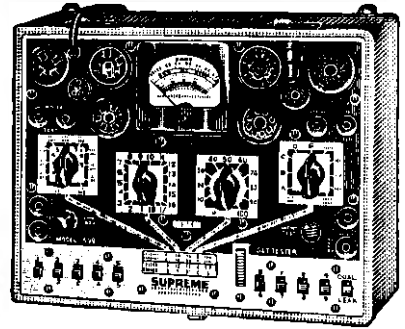


SUPREME INSTRUMENTS

Newest Engineering Developments



MODEL 589
TUBE AND BATTERY TESTER



MODEL 599
TUBE AND SET TESTER

MODEL 589 TUBE AND BATTERY TESTER has a completely modernized circuit. The tube test sockets are not wired directly to the circuit, but, instead, pass through the patented Supreme Double Floating Filament Return Selector system which automatically re-connects all tube elements to any possible tube base arrangement. Due to the fact that any or all elements of each socket can be rotated to any desired position, only one socket of each type is necessary. Tests every type of tube from 1.4 volts to full line voltage at its correct anode potential under proper load. Tests separate sections in multi-purpose tubes. Checks all leakages, shorts, open elements and filament continuity with a neon lamp. A circuit insert is provided for checking noise, leakage, loose and bad connections.

The battery testing circuit of the Model 589 provides the proper load at which each battery is to operate, plainly marked on the panel, for all 1.5, 4.5, 6.0, 45 and 90 volt portable radio types. The condition of the battery is indicated on an English reading scale.

This is the fastest and easiest tester to operate. Just "follow the arrows"—you can't go wrong. Roller type tube chart geared mechanism lists tubes in logical numerical order. Each tester carries a one year free tube setting service. SUPREME engineering and construction PLUS the best materials the market affords, make the 589 your biggest dollar value. You will be proud to own this instrument.

Dealer Net Cash Price... **\$29.95**

Terms: \$4.00 cash and 8 payments of \$3.63

Large illuminated meters—dual sensitivity neon tests (200,000 ohms or 2 megohms)

589 with 7" meter—Dealer Net Cash Price **\$39.95**
Terms: \$4.50 cash and 9 payments of \$4.39.

589 with 9" meter—Dealer Net Cash Price **42.50**
Terms: \$5.00 cash and 10 payments of \$4.18.

MODEL 599 TUBE AND SET TESTER is very similar in appearance to the Model 589, and includes all the features and advantages of this instrument. In addition, it provides the following ranges:

0.2 TO 1500 D.C. VOLTS—5 carefully selected ranges—0/6/15/150/600/1500 volts. 1000 ohms per volt STANDARD sensitivity.

0.2 TO 600 A.C. VOLTS—4 A.C. ranges—0/6/15/150/600 volts. Rectifier guaranteed with instrument and fully protected from overload damages.

0.2 M.A. TO 600 M.A.—3 direct current ranges 0/6/60/600 allow measurement of screen, plate, "B" supply and D.C. filament loads.

0.2 TO 600 OUTPUT VOLTS—0/6/15/150/600—ideal for alignment. No button to hold down—no external condenser necessary.

0.1 OHM TO 20 MEGOHMS—4 ranges 0/200/20,000 ohms, 0/2/20 megohms. A low range at high current with 3.5 ohm center scale.

ELECTROSTATIC—ELECTROLYTIC LEAKAGE TEST—provides an excellent test of paper condensers by means of the highly sensitive 20 megohm range. Much better than neon lamp methods as the ohmmeter is calibrated. Is equally useful in checking leakage in electrolytic condensers.

Just as the 589 is your best value in a tube and battery tester, the 599 is your best value in a combination tube tester, battery tester and set tester. Remember, you have all the features of the 589 PLUS a complete AC, DC, volt, ohm, megohm, millimeter, at a cost of only 47c per range.

Dealer Net Cash Price... **\$39.50**
Terms: \$4.50 cash and 9 payments of \$4.33.



Metal cabinets, vertical (as illustrated) or counter type by merely reversing instrument panel.

599 with 7" meter—Dealer Net Cash Price **\$49.95**
Terms: \$5.50 cash and 11 payments of \$4.50.

590 with 9" meter—Dealer Net Cash Price **52.50**
Terms: \$5.75 cash and 12 payments of \$4.33.

MODEL 504 TUBE AND SET TESTER

The Model 504 is radio's finest quality combination tube tester, condenser tester and set tester. Correctly tests all types of tubes from 1.4 to full line voltage. Separate tests of each section of multi-section tubes. Protection against obsolescence by patented double floating filament return circuit. Neon lamp checks for leakages, shorts, open elements and filament continuity. Merely pressing a button increases the lamp sensitivity to 2,000,000 ohms. Electrostatic leakage checked on 20 megohm resistance range. Electrolytic capacities are tested at their correct working voltage and condition read on English reading scale—settings listed on tube chart. In addition has following ranges: 7 ranges from 0.1 to 2500 D.C. volts; 5 ranges from 0.1 to 1000 A.C. volts; 7 current ranges from 10 microamperes to 10 amperes; 5 output ranges from 0.1 to 1000 volts; 5 resistance ranges from 0.1 ohms to 20 megohms. Low range has 3.5 ohm center scale. All multimeter ranges calibrated 2% on D.C. and 3% on A.C. Rectifier guaranteed—circuit fully temperature compensated.

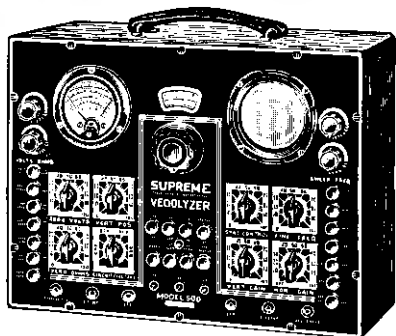
Dealer Net Cash Price... **\$65.95**

Terms: \$7.25 cash and 11 payments of \$5.94



SUPREME INSTRUMENTS

Supreme by Comparison



MODEL 560 VEDOLYZER

The VEDOLYZER is a new and different testing instrument using a natural testing system. It traces the RADIO SIGNAL through every stage and you SEE the ACTUAL SIGNAL on the screen of the VEDOLYZER! Thus, you see where the signal begins to distort and how much! You see presence or absence of correct signal. You check for correct I.F. and oscillator frequency. You check actual operating voltages without disturbing the receiver's circuit. You check A.V.C., R.F., A.F.C. signal grid and D.C. grid voltages—all with the set under actual operating conditions. You check for location, amount and frequency of hum. You check for intermittent reception in any part of the set.

The VEDOLYZER contains (1) a frequency compensated wide-range amplifier from 20 cycles to 4.5 megacycles, which includes A.F., I.F. broadcast and television video frequencies, (2) a Radio Frequency Oscilloscope for viewing R.F., I.F. and A.F. wave forms, modulated envelopes, modulation factor, all types of distortion and amount of amplification, (3) a built-in vacuum tube volt-ohmmeter with 7 D.C. voltage ranges to 6,000 volts (0/2/6/20/60/200/600/6000), 7 A.C. voltage ranges to 3000 volts (0/3/9/30/90/300/900/3000), 7 ohm and megohm ranges from 1/2 ohm to 1000 megohms (0/1M/10M/100M/1 meg/10 meg/100 meg/1000 meg.) Uses decimal type, easy reading meter scale, (4) a wave analyzer and frequency meter for measuring both frequency and amplitude of both fundamentals and harmonics, (5) an internal sinusoidal line supply frequency sweep, (6) an internal linear sweep from 5 to over 30,000 cycles, (7) multiple probe input for checking more than one stage at a time for intermittents. Two separate input jacks for low input and high input. Internal R.F. scope. Linear sweep, horizontal amplifications and synchronization result in easily locked R.F. waves.

Dealer Net Cash Price..... **\$129.50**
 Terms: \$13.50 cash and 12 monthly payments of \$10.63



**MODEL 561
 A.F. AND R.F. METERED OSCILLATOR**

A signal generator you can do everything with, 5 types of signal outputs—(1) Variable audio from 15 to 15,000 cycles, (2) Unmodulated R.F. from 65KC to 20.5MC on fundamentals and over 60MC on harmonics, (3) Variable audio modulated R.F. over same range, (4) Frequency Modulated R.F. (5) Means for varying the percentage of audio modulation from 0 to 75%. A.F. Oscillator has range from 15 to 15,000 cycles on 6-inch illuminated dial. Push button selection of 4 output impedances (50, 600, 5000, 50,000 ohms) Output center-tapped for push-pull inputs. Less than 5% harmonic distortion over entire range. Power output 150 milliwatts—open circuit voltage 35 volts. Output fully controllable. R.F. oscillator coverage from 65 KC to 20.5MC—five bands (65/205KC, 205/650KC, 650/2050KC, 2050/6500KC and 6.5/20.5MC). Harmonics to above 60 MC. Ranges are push-button selected and only two scales used for all bands.

Large, illuminated 6-inch dial, shallow type indicator. Ratio tuning mechanism. Electron coupled oscillator uses air-dielectric trimmers and iron-core inductors allowing factory calibration at both ends of each band—within 1/2 of 1% accuracy guaranteed. Push-button attenuator of ladder type employing fine adjustment control. Continuously variable from 1/2 microvolt to 100,000 microvolts. Metered output uses built-in vacuum tube voltmeter which controls level in actual microvolts. R.F. and A.F. sections available separately or variable audio can modulate R.F. oscillator. Percentage of modulation control allows control from 0 to 75% of modulated signal read directly on meter. Built-in Frequency Modulator using SUPREME'S famous "Lock-center synchronize" circuit.

Dealer Net Cash Price..... **\$88.50**
 Terms: \$9.50 cash and 12 payments of \$7.32



MODEL 562 AUDOLYZER

This is a quick, easy, inexpensive test instrument for DYNAMIC TESTING of every radio receiver using the Signal Tracing method. Easy to operate. You always HEAR the demodulated signal instead of watching a meter or magic eye. You can find the dead portion or any receiver by connecting your modulated signal generator to the receiver and touching the SUPREME AUDOLYZER'S probe first to the antenna post, then the grid of the R.F. tube, the R.F. tube plate, etc., right back through the complete receiver. You will hear a signal in the AUDOLYZER'S speaker (which has a volume control) until you hit the dead stage. You can use the AUDOLYZER'S vacuum tube volt meter to measure all D.C. voltages without disturbing receiver's normal operations. 7 D.C. voltage ranges of 0/1/3/10/30/100/300/1000 at 15 megs input. Meter is center-reading type with 'plus' and 'minus' readings to each side of center eliminating reversing test leads for polarity changes. You can measure resistance from 0.1 ohm to 20 megohms. 5 ranges give you perfect overlap as the 0/200 is the low range with 3.5 ohms center scale. Total ranges are 0/200/2000/20,000 ohms and 2/20 megohms. Next, you can check receiver's oscillator. If oscillator cuts out or is weak when receiver dial is rotated, AUDOLYZER meter immediately indicates it. To determine unknown frequency of oscillator, I.F., or R.F. signal, use tuning portion of SUPREME AUDOLYZER and AUDOLYZER'S V.T.V.M. as frequency meter.

For receiver's oscillator place probe on oscillator output and tune AUDOLYZER for greatest meter swing. Read frequency on AUDOLYZER'S direct-reading dial. For R.F. determination, connect your signal generator to receiver's input and place AUDOLYZER probe on output of R.F. stage under test. Adjust signal generator and AUDOLYZER to same frequency. Adjust receiver trimmer until receiver dial reads correctly. To determine actual signal fed to I.F. stages connect AUDOLYZER probe to first Det. output, feed a signal into receiver and adjust AUDOLYZER dial until you get maximum swing of its meter needle. Read actual I.F. signal's

frequency on AUDOLYZER. Relative gain or loss of signal strength in any stage, tube or transformer can be determined. You can check A.V.C. circuits for correct applied voltage under actual operating conditions. You can adjust A.V.C. circuits. Distortion is easily noted by ear.

Dealer Net Cash Price..... **\$78.50**
 Terms: \$8.50 cash and 12 payments of \$6.49 each

SUPREME INSTRUMENTS

Supreme by Comparison



Model 571 Signal Generator

Here is a fine laboratory type signal generator at a price you can afford to pay. The SUPREME 571 Signal Generator produces 6 types of signals—all hum free—(1) Straight C.W., (2) 400 cycle, 30% standard audio modulated R.F., (3) 400 cycle, 75% high level audio modulated R.F., (4) External audio

modulated R.F., (5) External frequency modulated R.F., (6) 400 cycle fixed audio note for testing audio amplifiers, etc. This signal generator has 5 R.F. ranges from 65 KC to 20.5 MC on fundamentals and to over 60 MC on harmonics. It uses an electron coupled oscillator circuit with air-dielectric condensers and iron core coils resulting in a guaranteed accuracy of within $\frac{1}{2}$ of 1%. Absolute freedom from temperature and humidity frequency drift. Factory calibrated on the head at both ends of each range. All ranges read on but two basic scales. Dual ratio dial gives you complete coverage in one revolution with 5 to 1 vernier for accurate settings. Illuminated scale uses hair-line shadow indicator, eliminating parallax. Two modulation levels (30% and 75%) are ideal for catching 2nd detector distortion. 400 cycle note has no frequency change from one type signal to another. High R.F. output on all bands fully controllable using non-short-circuiting ladder type attenuator. Double shielding throughout sine wave demodulated wave. Beautiful black metal panel with silver and red trimming. Complete with all accessories and operating instructions.

Dealer Net Cash Price..... **\$39.95**
Terms: \$4.50 cash and 9 monthly payments of \$4.39



Model 546 C. R. Oscilloscope

THE SUPREME MODEL 546 OSCILLOSCOPE uses a 3" high vacuum type cathode ray tube. Every control is on the front panel—no reaching around side or back.

By using the SUPREME 561 Signal Generator and Frequency Modulator with the SUPREME 546 Cathode Ray Oscilloscope, you can correctly align and adjust the band pass of I.F. stages, align R.F. and oscillator stages, check A.F. stages not only for distortion but for frequency response over the complete audio range and quickly adjust A.F.C. (automatic frequency control) circuits without using a vacuum tube voltmeter. A picture of the condition in the A.F.C. circuit is shown directly on the screen and when adjustment results in a correct scope picture, the A.F.C. circuit is exactly and accurately tuned.

There is no limit to the functions of a Scope. Profitable uses to the servicemen are (1) hum chasing (2) R.F. peaking (3) I.F. alignment (4) checking demodulation action of 2nd detector and observation of possible overload or distortion in I.F. stages (5) A.P.C. action and gain (6) audio amplifier distortion (7) gain measurement—stage by stage or overall—in R.F., I.F., and A.F. amplifiers.

The 546 is (1) flexible in operation (2) has simple and logically arranged controls (3) has sensitive linear amplifiers producing undistorted output (4) has high impedance input circuits and wide frequency range (5) has positive stable synchronization (6) its return trace is eliminated to avoid confusion (7) its cathode ray tube is well shielded and all parts have a high factor of safety.

Controls on the 546 include (1) horizontal base adjust (2) vertical spot adjust (3) horizontal gain (4) vertical spot gain (5) snap-lock synchronizer (6) linear time base frequency adjust (coarse) (7) linear time base vernier frequency adjust (8) spot intensity or brilliance adjust (9) spot or trace focusing adjust. Means are provided for external synchronization and direct access to deflecting plates. Complete instructions are supplied with each tester.

Dealer Net Cash Price **\$64.50**
Terms: \$7.00 cash and 12 monthly payments of \$5.33



MODEL 543 POCKET MULTIMETER

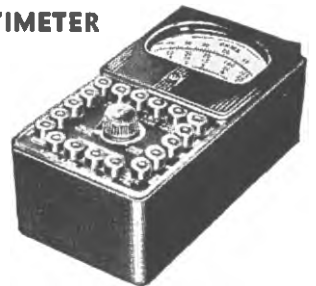
The Model 543 Pocket Multimeter uses the same bakelite case as Model 542. Attractive two-color panel—full size 3" one-mil meter. A single rotary selector switch provides functions and ranges of:

Resistance — 0/2000/200,000 ohms; Direct Current—0/6/60/600 M.A.; A.C.—0/15/150/600/3000 volts; D.C. 0/15/150/600/3000 volts. Batteries furnished and contained within case. Ranges at 1,000 ohms per volt standard sensitivity. With this instrument you can make A.C. and D.C. voltage measurements in radio and television receivers and if you are a "Ham" you can use the high voltage ranges on your transmitter and scope. This is a beautifully designed and rugged little instrument at an astonishingly low price.

Dealer Net Cash Price..... **\$11.95**

MODEL 542 MULTIMETER

A regular little pocket laboratory with a case only 3 x 5 1/2" x 2" in size, weighing but 23 ounces—24 ranges—just as accurate and even more convenient than you would expect to find in an instrument twice its price. 4 DC mil ranges (with first scale division

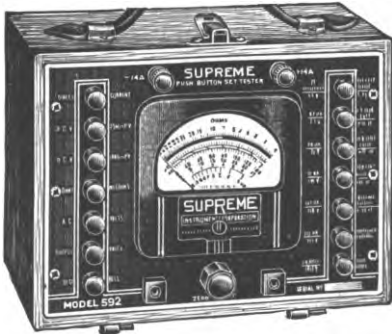


5 microamperes) of 0/0.3/6/30/150; 4 DC volt ranges (with first scale division 0.1 volt) of 0/6/150/300/1500; 4 ohms ranges (with 1 ohm first scale division and 25 ohms center scale) of 0/2,000/20,000/200,000/2 meg; 4 AC volt ranges (with first scale division 0.1 volt) of 0/6/30/150/600; 4 output ranges of 0/6/30/150/600; 4 decibel ranges of -6/+10, +8/+24, +22/+38, +34/+50. The Model 542 is not a toy—it uses a full size 3" square meter with a rugged, accurate 200 microampere movement and a knife edged pointer. This movement has a sensitivity of 5000 ohms per volt. All ohmmeter ranges, including the megohm ranges, are operated by batteries furnished with the instrument and contained within its durable black moulded bakelite case.

Dealer Net Cash Price..... **\$16.30**

SUPREME INSTRUMENTS

Easiest Installation Terms



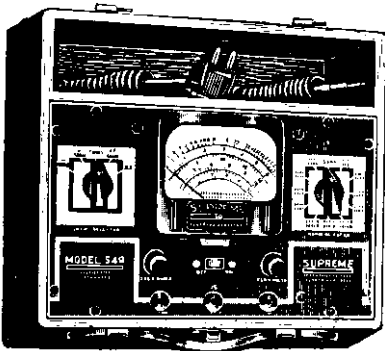
MODEL 592 SET TESTER

The SUPREME 592 Universal Set Tester is the most complete test meter ever offered. 46 ranges at a "per range" cost of but 87¢ —an amazing value! Contains 8 direct current ranges from 1 micro-ampere to 14 amps—0/70/700 microamperes; 7/35/140/350 MA; 1.4/14 amps. 7 D.C. voltage ranges at 25,000 ohms per volt from 0.1 to 1400 volts—0/3.5/7/35/140/350/700/1400 volts. 7 D.C. voltage ranges at 1000 ohms per volt from 0.1 to 1400 volts—0/3.5/7/35/140/350/700/1400 volts. NOTE DOUBLE METER SENSITIVITY—NOT AVAILABLE ON ANY OTHER INSTRUMENT. 6 A.C. voltage ranges from 0.1 volt to 1400 volts—0/7/35/140/350/700/1400. 6 resistance ranges from 1/4 ohms to 50 megohms with completely self-contained battery supply. 0/500/5M/50M/500M/5 megs./50 megs. 6 output ranges from 0.1 to 1400 output volts. 0/7/35/140/350/700/1400 with internal condenser for alignment work. 5 Decibel measuring ranges from -10 to +46 D.B., -10/+6, 0/+16, +10/+26, +20/+36, +30/+46 D.B. 50 meg resistance range allows very accurate leakage check of all electrostatic paper and mica condensers. New, specially designed A.C. rectifier circuit minimizes burn-outs from momentary overloads. NO SAFETY SWITCH TO HOLD DOWN. Copper-oxide rectifier GUAR-

ANTEED the same as every other part. D.B. (decibel) conversion chart furnished so D.B. readings can also be taken on any line of known impedance. D.B. readings direct for 500 ohm line. SUPREME 592 easiest multimeter to operate—just depress one button on left side of panel for desired function and one button on right side for desired range. One set of pin jacks serve 45 ranges. 14 amp range

on separate binding posts. 40 microampere meter movement. Wire wound shunt resistors. Special push-button for quick ohmmeter zero adjustment. SUPREME 592 Set Tester is indeed SUPREME BY COMPARISON.

Dealer Net Cash Price **\$43.95**
Terms: \$5.00 cash and 10 monthly payments of \$4.33



MODEL 549 ELECTRONIC VOLTMETER

Model 549 Electronic Voltmeter will take care of all servicemen's multimeter requirements since it has standard provisions for A.C. and output volts, direct current measurements, etc., in addition to the electronic circuit for D.C. voltage and resistance measurements.

0.1 TO 6000 D.C. VOLTS—6 overlapping ranges of 0/2/6/20/60/200/600 volts. Ranges may be extended to 6000 volts, by use of special probe quoted below. Input impedance of all ranges to 600 volts is 15,000,000 ohms. Input impedance of 6000 volt range is 150,000,000 ohms. Probe supplied for D.C. volts is designed so the voltage developed across oscillator grid leak can be measured without affecting oscillator. All plate, screen bias, A.V.C. and A.F.C. voltages can be measured without upsetting operation of receiver. Voltages of negative or positive polarity with respect to ground may be measured by setting selector switch. The low range of 2 volt full-scale gives a sensitive meter necessary in measuring small control voltages.

0.5 OHMS TO 1000 MEGOHMS—5 overlapping ranges of 0/1000/100,000 ohms; 0/1/10/1000 megohms. The electronic circuit allows the 1000 megohm range to be reached with a 3 volt self-contained battery. Features are the extreme accuracy by adjusting ohmmeter at "zero" and "full scale" positions. After once set there are no other adjustments necessary between ranges. Low range has a center scale of (15) ohms. You will like this type of ohmmeter for its speed and accuracy.

0.1 VOLT TO 500 A.C. VOLTS—5 overlapping ranges of 0/5/15/50/150/500 volts. Calibration is guaranteed $\pm 3\%$. Copper oxide-rectifier fully protected. Temperature error of rectifier is corrected over a working range of 40° F to 100° F.

10 MICROAMPERES TO 15 AMPERES D.C. CURRENT—7 direct ranges of 0/500 microamperes; 0/5/15/50/150/500 M.A.; and 0/15 amperes. Such a wide selection of ranges was incorporated to meet all current measurements necessary—from the few microamperes found in control circuits to the ampere drain of automobile receivers.

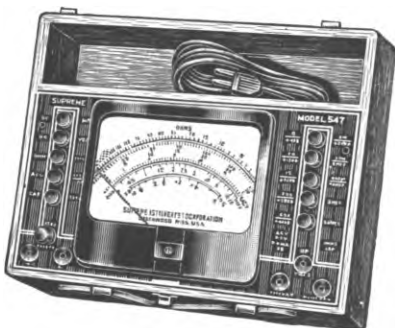
0.1 TO 500 OUTPUT VOLTS—5 ranges of 0/5/15/50/150/500 volts; can be used with any good signal generator (SUPREME Model 571 or 561) for receiver alignment.

The Model 549 may be obtained in a metal case, without lid, for shop use or it may be obtained in a beautiful quartered oak portable type case with removable cover and large compartment for test leads and other accessories.

Dealer Net Cash Price—Metal Case **\$39.95**
Terms: \$5.00 cash and 10 monthly payments of \$3.90

Dealer Net Cash Price—Portable Oak Case **\$42.50**
Terms: \$5.00 cash and 10 monthly payments of \$4.18

Type 4875 Leads extend D.C. voltage ranges to 6000 volts. Multiplier isolates probe from circuit under test. Calibrated to $\pm 1\%$. Pair \$5.75 or, if purchased with Model 549 merely add 63¢ to each of the 10 monthly payments. (No increase in down payment.)



MODEL 547 SET TESTER

Model 547 is a fast push button operated set tester using a large 7" meter. All scales can be easily read even though standing two or three feet away from the instrument. The illustration explains its method of operation. Functional switches are on one side of the meter and range switches on the other side of the meter. All that is necessary to obtain any range is to press one button on the left hand row and one button on the right hand row. Thus, at your fingertips you have instant control of 36 ranges as follows:

- D.C.M.A.—5 ranges of 0/6/30/150/300/600
- D.C. Volts—6 ranges of 0/6/30/150/300/600/3000
- A.C. Volts—6 ranges of 0/6/30/150/300/600/3000
- Output Volts—6 ranges of 0/6/30/150/300/600/3000
- Decibel—5 ranges of -10/+4/+18/+32/+38/+44
- Ohms—3 ranges of 0/2M/20M/200M
- Megohms—2 ranges of 0/2/20
- Capacity—3 ranges of 0/2 mfd/2 mid/20 mfd.

Copper-oxide rectifier is fully protected and guaranteed. The A.C. voltmeter circuit is calibrated to $\pm 3\%$ and temperature compensated, so that you can use it in winter or summer with equal accuracy.

The Model 547 may be obtained in a metal case for shop use or it may be obtained in a beautiful oak carrying case with large com-

partment for test leads and other accessories.
Dealer Net Cash Price—Metal Case **\$33.95**
Terms: \$4.00 cash and 8 monthly payments of \$4.17

Dealer Net Cash Price—Portable Oak Case **\$36.50**
Terms: \$4.00 cash and 9 monthly payments of \$4.02



Clough-Brengle Precision Instruments

No. 225 Tube and Battery Tester Anticipates All Tubes of the Future

• ALL American SOCKETS including 2 midgets and 2 spare. • PILOT LAMP TEST included. • FREE ROVING SWITCH (C-B) for every existing and future base. Spare slide bar for 9 pin base. No flimsy radio switches. • RECORD DATA SYSTEM—Fast finding of 500 types and data amended and replaced without opening case. • NEW SHORT TEST has no "exceptions" and resulting confusion of customer. • EXTRA FILAMENT positions and dry wound trans. permit easy additions. • PLUG CONNECTION for large meter. • DYNATEST CCT. No emission test. • BRIDGE INDEX. No tapered pots. • PORTABLE and COUNTER use. Nickel and Blk. 11 $\frac{1}{8}$ " x 12 $\frac{3}{8}$ " x 5 $\frac{1}{2}$ " with lid. 16 lbs. \$47.50



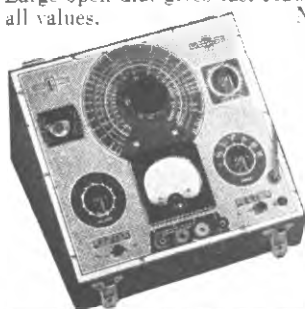
No. 79-D Audio Oscillator (B-F Type) Has High Stability, 25-15,000 c.

Succeeding our previous models, 79-D has higher stability and readability than was ever deemed possible in a modestly priced instrument. Panel carries direct frequency calibration with vernier dial and physical-pitch scale. Perfect decoupling of r-f oscillators permits accurate zero-beat by electron-eye on panel. Thermal insulation and adequate ventilation assure stability. Output: 120 mw. to 500 or 5000 ohm loads. Flat to $\frac{1}{2}$ DB. from 100 c. up and to one DB over whole range. Distortion: Less than 3% above 50 c. and 60 mw. Less than 5% above 100 c. and maximum output. Silver & Blk. panel Ventilated Case. 9 $\frac{1}{4}$ " x 13" x 6 $\frac{1}{2}$ ". Wt. 18 lbs. \$64.50. Six tubes supplied.



No. 230 Condenser Resistor Bridge Has Self-Computing Scale

It is no longer necessary to compute leakage/mfd. with this new development. Rejects electrolytics on USN tolerances. Wide range permits test of 90% of radio and electronic parts. Large open dial gives fast reading of all values.

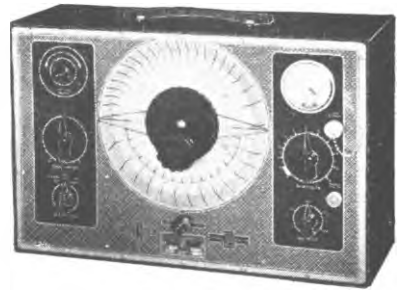


7". Wt. 11 lbs. MADE BY AN INSTRUMENT (not parts) MANUFACTURER. \$42.50.

Note wide ranges! Capacity: 2 mmf. - 200 mf. in 3 ranges. Resistance: 2 ohms-20 megs, 2 ranges. Inductance: With external standards in ranges desired, using 230 arms. Power Factor: 0-.5% and 0-50%. Transformer Turns Ratio: .01-100. Exclusive feature with C-B! Insulation: 0-2500 megohms. Inclined panel with lid (not shown) 10" x 8 $\frac{1}{2}$ " x

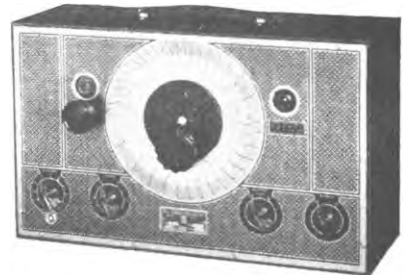
No. 199-A Standard Signal Generator Checks Receiver Performance in • MEASURED MICROVOLTS •

With highest grade performance, modestly priced, Mod. 199-A has had wide acceptance with service-men, radio and university laboratories and various Government departments. Measures selectivity and sensitivity in range of 100 kc.-32 mc. and $\frac{1}{2}$ -100,000 MICROVOLTS. 0-1.6 v. from high-output jack. Lattice wire-wound attenuator resistors and copper r-f shielding thruout. Vernier frequency dial guaranteed to $\frac{1}{2}\%$ 100 kc.-10 mc. 1% 10-32 mc. 400 cycle internal modulation on separate modulator-amplifier tube. 16" x 10" x 6". Wt. 24 lbs. Price only \$95.00. Send for all data & accuracy detail.



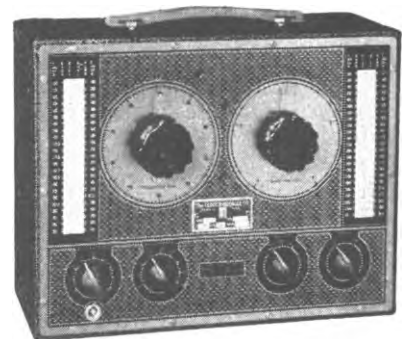
No. 110-A Signal Generator Noted for Accuracy and Low Stray Fields

Has same 5 coil Roto-Inductor coil system as 199-A, each coil with adjustments for inductance and capacity permitting factory adjustment of frequency-dial to highest accuracy. Output frequency independent of attenuator and changes less than 1/100% with 10 volt change in line. Our finest r-f oscillator for those not requiring microvolt readings of 199-A. Frequency range and dial accuracy same as for 199-A, above. Output: 0-100,000 microvolts thru 100 ohm attenuator. Modulation: 400 c. internal, 30% with CW switch. Sine-wave 400 c. a-f output available thru attenuator. Panel: Silver and Blk. Case: 9 $\frac{1}{4}$ " x 12" x 5". With tubes and 3' coaxial output cable. Wt. 15 lbs. \$49.50.



No. OCX Signal Generator for Those Preferring Chart Calibration

So many hundreds of the OCX and its predecessors have been sold, it is practically standard with the service profession. Ranges and construction same as 110-A, above, but frequency is read on 400 div. dial and plotted on large charts. Ready reference charts on panel state dial settings for all commonly used frequencies. Silver and Blk. Complete with tubes and cables. 9 $\frac{1}{4}$ " x 12" x 5". \$34.50.



SPACE PERMITS ONLY BRIEF DESCRIPTIONS OF OUR PRODUCTS. ASK YOUR JOBBER OR US FOR DATA SHEETS WITH COMPLETE DESCRIPTIONS AND OTHER INTERESTING TECHNICAL INFORMATION.

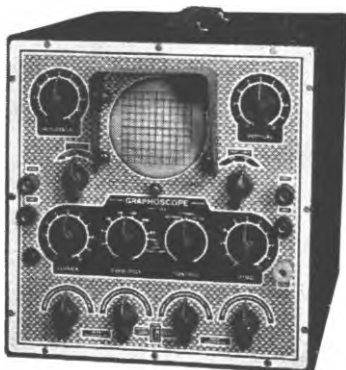


Clough-Brengle Precision Instruments

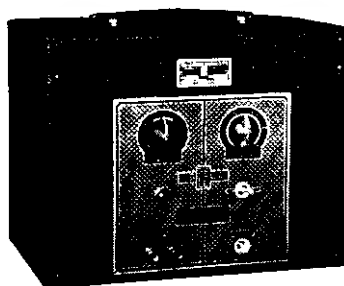
No. 126-A Graphoscope (Cathode-Ray) for Engineering and Service Uses

A 3" general purpose oscillograph, ruggedly constructed for service work and to exacting standards justifying its wide use in research and design. It is compact and portable, yet by careful design and shielding all effect of the transformer on the cathode-ray beam has been eliminated.

Sensitivity: Vertical .68 rms v/in. thru amplifier. 62 v/in. without amplifier. Horizontal, 22 & 92 v/in. Sweep: 884 with exclusive linearising amplifier. 15-30,000 sweeps/second. Return trace eliminator. Amplifier: Flat to 10 kc. with 1 DB drop per 10 kc. up to 100,000 cycles. Controls: All on front panel logically grouped. Supplied complete with tubes ruled screen and hood. 9 1/4" x 9" x 14". Wt. 18 lbs. \$69.50.



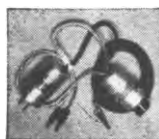
No. 111 Frequency Modulator for C-R



For frequency modulating any standard r-f oscillator, the Mod. 111 is unbeatable. Our 5 tube circuit eliminates the spurious output signals of all others. Automatic c-r sweep lockin with signal from 111. Single or double trace method. Median Frequency: 1650 kc. Sweep Width: Adjustable to

25 kc. each side of median. Size 9 1/4" x 11 1/2" x 8". Wt. 18 lbs. Coaxial output cable. \$39.50.

No. 147 Demodulator (Anti-Capacity)



For signal tracing with c-r oscillograph with advantage of seeing trouble telling wave-form. The small rectifier prod can be placed in inaccessible places in chassis and clipped to point being studied. With diode and filament transformer,

shielded cord and plugs for oscillograph connection. Illustration about 1/10 actual size. Wt. 1 lb. \$7.50.

No. 220 Unimeter. 20,000 Ohms Volt. Television Ranges.

High sensitivity and h.v. ranges make this the ideal High voltage test prod and other safety features protect the operator. Ranges: D-C Volts: 0-5-20-100-500-1000-5000-10000 @ 20000/v. A-C Volts: 0-3.5-7-35-140-700-3500-7000 @ 700/v.—16 to +52 DB. 5 steps. 6 mw.

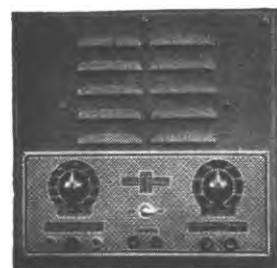
D-C Current: 0-50-500 microamps. 0-5-50-500 milliamp. 0-5-20 amp. Resistance: 0-3000-30000 ohms. 0-3-30 megohms. (Center scale 27-270-27000 ohms - .27megs.) Reads to 1/2 ohm. Size: (with cover) 9 1/4" x 10" x 5". Wt. 10 lbs. Complete leads. \$59.50.



No. 185-A Unimeter Has Complete Testing Ranges at 2,000 Ohms/v.

No. 185-A has the same appearance as the No. 220 (at left) and is built to the same high standards of accuracy and workmanship. With added capacity ranges this is a real utility instrument for all-around work. Exclusive CB switching system eliminates jacks and fumbling for desired range. Ranges: AC Volts: 0-8-32-160-800-1600. D-C Volts: 0-5-20-100-500-1000. (Note how all commonly used voltages fall well up-scale). D-C Mills: 0-5-10-100 and Short. Ayrton-Mather ring circuit used. Resistance: 0-4000-40000-4 megs. (Center Scale values 40-400-40,000) with internal battery. 0-20 megs. with external battery. Capacity: .0005-.1 and .05-10 mfd. AC cord provided for line. Inductance: Using chart in lid, inductances may be read. Decibels: —15 to 59 DB in five ranges. Self contained insulating condenser may be used for receiver output. Complete with lid, instructions and CB unbreakable test prods. 9 1/4" x 10" x 5". Black and silver panel. Wt. 9 1/4 lbs. \$29.50.

Two Speed Units for the Service Shop No. 131 Speaker Substitute No. 132 Battery Voltage Control

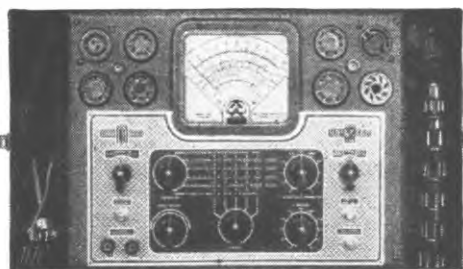


No. 131. All receiver outputs, push-pull or single ended, with or without transformer, are accurately matched to voice coil of 6" PM speaker. Field coil substitute has large choke for filtering action. Impedance Range: 2500-4000-5000-7500-10000-15000, VC-1.5-3-5-8-15 ohms. Field Range, 500-4000 ohms. 1000 ohm constant impedance meter connection. Wt. 15 lbs. \$19.50.

No. 132. For testing auto vibrators in receiver, rapidly and accurately. Meter: 0-10 v. and 0-20 amp. Heavy duty control rheostat. Cut-out relay breaks at 15 amps. 50" H.D. battery leads. Size 9 1/4" x 10" x 5", same as No. 131. Wt. 8 lbs. \$19.50.

No. 285 Has All Ranges of Model 185-A Plus Line Powered Ohmmeter and Complete Socket Analyser Equipment

Two rotary switches permit current and voltage measurements at any socket terminal of over 500 tube types listed in unique lid chart. Complete with prods, cord and adapters. Size, accessory pockets.



9 1/4" x 16 1/2" x 4 1/2". 17 lbs. \$49.50.

The C-B Co., is entering its ninth year of instrument design and manufacture as this catalog page goes to press. It is no little source of pride to us that each of the many instruments we have made has contained not only a full measure of the tangible materials, but also that unseen essential which might be called "engineering integrity."

Our engineering department is always ready and willing to cooperate on instrument problems and to make carefully considered recommendations.

HICKOK

TEST EQUIPMENT



Model 510X
Size: 14" x 13 3/4" x 6"

MODEL 510X RADIO TUBE AND SET TESTER

Measuring Dynamic Mutual Conductance in Micromhos*

THREE RANGES: 0-3000, 0-6000, 0-15,000 MICROMHOS

With Five Inch Rectangular Meter—Scale Length Over 4 1/2 Inches

Both 510X and 530 units test tubes identically. Includes A.C., D.C. Volts, Ohms, Milliampere, Capacity, Leakage, Inductance, Output and Decibel Measurements. Tests all tubes, octal, loktal and tubes up to and including 117 volt filament. Contains sensitive test for noisy tubes. **Indications, Set Tester Section:** Reliable electronic rectifiers for A.C. Volts. No Copper oxide rectifiers used on any ranges. No burnt out rectifiers, no trouble. Linear scale. A.C. Volts: 0-20, 0-200, 0-500, 0-1000—Readable as low as .1 volt. A.C. voltmeter used to read output. D.C. Volts: 0-20, 0-200, 0-500, 0-1000. 1000 ohms per volt, all ranges. D.C. Milliampere: -20, 0-200. Ohms 1 to 25 Megohms in 3 overlapping ranges. No Batteries Used. Capacity, .0001 to 24 Microfarads in 3 overlapping ranges. Checks leakage in electrolytic condensers with polarizing voltage.

Indications Tube Tester Section: Delivers filament voltages up to 117 in consecutive steps. No obsolescence! Micromhos: 0-3000, 0-6000, 0-15000. Also expressed in English reading scale "Good", "Replace" and "Doubtful", three colors. Diodes tested separately for emission. Highly accurate line test on meter—Extremely stable.

FEATURES: ● Uniform Scale for both A.C. and D.C. Volts. ● True Dynamic Mutual Conductance. ● Sufficient plate current to accurately check both Power and Mutual Conductance. ● Each tube element receives proper voltage. ● Checks gas content accurately. ● Detects both short and open elements. ● Elements tested separately in multi-element tubes. ● Short tests made hot or cold. ● Selector switches take care of all future tubes. ● Sells more tubes—culls them closer. ● No complications. No Customer confusion. ● Rectified current is used on both Plate and Grid. No Copper Oxide Rectifiers Used. ● A.C. Voltmeter accurate on Audio Frequencies. ● Instructions supplied for reading Decibels. ● Checks inductance of chokes with or without D.C. Component of Current. ● Checks leakage in electrolytic or paper condensers. ● Measures hum in filter systems. ● Method of measuring Dynamic Mutual Conductance patented.

NET \$69.00

MODEL 530 TUBE TESTER

Measuring Dynamic Mutual Conductance in Micromhos*

(Illuminated Dial)

THREE RANGES: 0-3000, 0-6000, 0-15000 MICROMHOS (Patented)

*Note: The Unit of Mutual Conductance is the Micromho. If a Tube Tester does not read in Micromhos it is not a Dynamic Mutual Conductance Tester. The only dual reading units made indicating Dynamic Mutual Conductance in Micromhos—also Good, Replace, Doubtful. New roll chart, greatly enlarged and simplified. See arrows pointing to chart on tester panel. Most simple of all to operate. Tests all tubes, including Octal, Loktal, and up to and including 117 volt filament types. Contains sensitive test for noisy tubes.

Technical Description of 530C and 530P Tube Testers: Rectified current is used to energize both plate and grid. Superimposed on the rectified voltage in the grid circuit is an alternating signal voltage. The large square meter responds only to the change in plate current caused by the signal on the grid. The meter is not affected by the steady value of plate current, except in diodes and rectifiers in which plate current is indicated. The 530 type testers are truly Dynamic Mutual Conductance Testers. In twin and multi-element tubes, the components are tested separately, determining the dynamic mutual conductance of each component. In twin grid tubes each grid is energized separately, determining the relative function of each. Diode plates are tested separately.

FEATURES: ● Reads Dynamic Mutual Conductance Directly in Micromhos which is standard engineering practice. No Graphs. ● Sufficient Plate Current to accurately check both emission and Mutual Conductance simultaneously. ● Each tube element receives proper voltage. Rectified current is used on both Plate and Grids. ● Checks gas content on meter. Gassy tubes ruin the operation of even the best radio receivers. ● Detects both short and open elements. ● Elements tested separately in multi-element tubes. ● Short tests made hot or cold. ● Selector switches take care of all tubes, switch positions for future tubes, only 50 used. All positions wired. ● Only one setting to make. No complications. No customer confusion. ● Tests Diode plates separately. ● Tests all ballast tubes, Magic Eye Tubes, New Battery tubes, Gas tubes: OZ4, OAL, 871, Octal, Loktal and to 117 Volt. Made in either Portable or Counter Type as shown—Specify When Ordering.

Size: 530C, Counter Type, 14" x 16" x 6".

Size: 530P, Portable Type, 14 3/4" x 13" x 6".

For Portable or Counter Model.....**NET \$56.40**



MODEL 133 — LABORATORY QUALITY SET TESTER

BUILT WITH PRECISION — MEASURES WITH PERMANENT ACCURACY

Here is a completely new and modern Radio Set Tester and should not be confused with ordinary Volt-Ohm-Meters or a multiplicity of small units that provide at best, only partial service.

This instrument is accurate within 2% of full scale deflection on all ranges, and employs a special new design meter with full range 40 microampere. Sensitivity—25,000 ohms per volt, sufficient to service the new frequency modulation receivers. Uniform scale 5" square meter—four-color dial.

METER RANGES

D.C. Microampere — 0-10-500.
D.C. Milliampere: — 0-5-50-500.
A.C. and D.C. Volts — 0-2.5-10-50-250-500-2500.
D.C. Volts — 25,000 ohms per volt.
A.C. Volts — 1000 ohms per volt.
Ohms — 0-30-10,000-1 meg.-10 meg.
Decibels — -20 to +3, +15, +20, +43.
Contains battery tester, for testing batteries, in all popular sizes up to 135 volts.

A new type of rectifier is used that gives a uniform scale for the A.C. voltage ranges. A.C. and D.C. volts are shown on the same uniform scale. The improved rectifier gives the A.C. voltmeter a flat frequency response for audio frequency measurements up to 10,000 cycles. Change in battery voltage does not affect the accuracy of the ohms range.

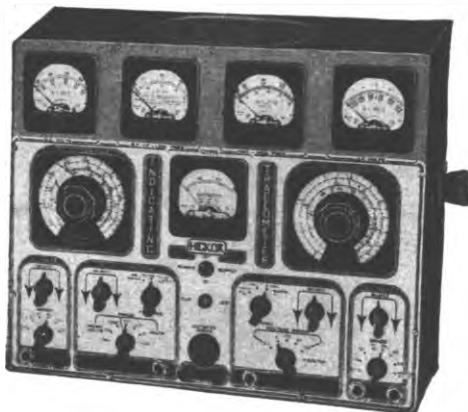
Size: 11" x 13" x 7".

MODEL 133**NET \$45.00**





TEST EQUIPMENT



NOW with the Model 155 Indicating Traceometer and its five precision meters you can measure and trace the signal (without interfering with the performance of the set), in any five circuits at one time. Vacuum Tube Voltmeter circuits so arranged that accidental overload can not damage meters.

D.C. VOLTMETER SECTION

Voltage Ranges
0-2.5-5.0-25.0-50.0-250.0-500.0 volts.
Zero Center. Accuracy $\pm 1\frac{1}{2}\%$.
Input impedance 18 megohms.

MODELS 177X & 188X UNIVERSAL CRYSTAL CONTROLLED SIGNAL GENERATORS

SPECIFICALLY DESIGNED FOR FREQUENCY AND AMPLITUDE MODULATION SERVICING

OUTPUT SELECTIONS

FUNDAMENTAL FREQUENCIES

- Wide Band Frequency Modulated R.F. Output. 750 K.C. Sweep. 100 K.C. to 133 Megacycles. (Modulated internally at 60 cycles for visual alignment of wide band frequency modulated and television) R.F. and I.F. stages.
- Frequency Modulated R.F. Output (Frequency modulated standard sweep—150 K.C.) 1000 K.C. to 133 Megacycles. Modulated internally at 400 cycles or can be modulated from external source from 10 to 15,000 cycles.
- Frequency Modulated R.F. Output (30 K.C. sweep standard for visual alignment of amplitude modulated receivers) from 100 K.C. to 110 megacycles.
- Amplitude Modulated R.F. Output 400 cycles/100 K.C. to 110 megacycles (or can be externally modulated from 50 cycles to 15,000 cycles).
- Unmodulated R.F. Output 100 K.C. to 110 megacycles.

Four Crystal Controlled Outputs.

Accuracy .01%.

- 100 K.C. Modulated (400 Cycles)—100 K.C. to 15,000 K.C.
- 100 K.C. Unmodulated—100 K.C. to 15,000 K.C.
- 1000 K.C. Modulated (400 cycle) 1000 K.C. to 100 Megacycles.
- 1000 K.C. Unmodulated—1000 K.C. to 100 Megacycles.
- 100 to 10,000 Cycle Variable Audio Frequency Output.
- 400 Cycle Fixed Audio Output.
- All Ranges Controlled by Output Attenuator.
- Synchronized Sweep Voltage for Oscillograph use.

METER

Self-contained Power Level Meter. Three Ranges. -10 to +6, +6 to +22, +22 to +38 db. Model 188 and 188X only.

R.F. RANGES 100 K.C. TO 110 M.C.
Seven Fundamental Continuously Variable R.F. Ranges with accuracy better than $\frac{1}{2}\%$.
100 K.C. to 300 K.C., 300 K.C. to 850 K.C., 850 K.C. to 2.6 M.C., 2.6 M.C. to 8.0 M.C., 8.0 M.C. to 24.0 M.C., 24.0 M.C. to 60 M.C., 60 M.C. to 110 M.C.

AUDIO FREQUENCY

Two Negative Resistance Audio Frequency Oscillators. 400 cycles, fixed and 100 to 10,000 cycle variable. Accuracy approximately 5%. Output voltage continuously variable from 0 to 1.0 Volt.
All coils but 60 to 110 M.C. are High "Q" from core type permeability and capacity tuned.

VOLTAGE REGULATION

If so desired can be instantly added by inserting V.R. 150-30 Tube in socket provided.

TUBES:

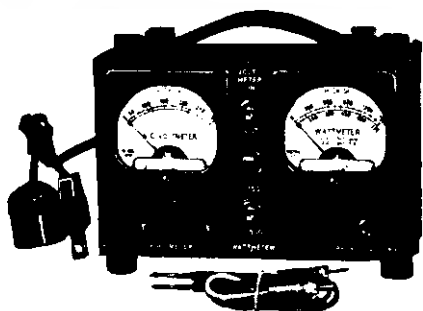
- 1-6J5 Variable R.F. Oscillator.
- 1-6J5 Crystal Oscillator.
- 1-8K8 Frequency Modulated Oscillator and Mixer.
- 1-8AG7 Quadrature Control Tube.
- 1-6SJ7 Negative Resistance Oscillator. 400 cycles and 0-10 K.C.
- 1-6X50 Full Wave Rectifier.
- 1-VH150-30 Voltage Regulator Tube (not supplied).

POWER: The Oscillator includes a complete built-in power supply consisting of a transformer, rectifier and filter. It may be operated from any 110 volt A.C. line, 40 to 65 cycles, other voltage and frequencies available at slight additional cost.

CABLES: Each oscillator comes completely equipped and supplied with all necessary connecting cables. Complete and 27-page manual furnished with each signal generator.

MODEL 145 A. C. - D. C. APPLIANCE TESTING VOLT - WATTMETER

Checks line voltage while measuring power consumption in watts of refrigeration, washing machines, motors, flat irons, etc. Voltage drop through house wires checked by noting drop in voltmeter reading when appliance is plugged in. Checks starting coils in fractional horse-power single phase motors. Ampere calculated from Volt and Watt indications.



RANGES
WATTS: 0-750-1500. Note uniform scale. Exclusive Hickok feature. Wattmeter current coil designed for 7.5 amperes maximum. Electrodynamic movement in wattmeter.

VOLTS: 0-300. Red Line at 110 and 220 Volts. Meter has magnetic vane movement giving easy to read practically uniform scale.

A.C. ACCURACY $1\frac{1}{2}\%$ from 25 to 133 c.p.s. On D.C. the voltmeter is accurate within $2\frac{1}{2}\%$. Wattmeter accurate within $1\frac{1}{2}\%$.

SCALE LENGTH OF METER 2-1/32". Legible dials. Case size 7" x 4 1/2" x 3 3/8". Meter 3" x 3 3/8". Two sets of leads supplied, five feet long male and five foot female appliance connecting cables. One pair three foot leads with test prods to connect to voltmeter jacks for point to point circuit continuity testing. Circuit provides pair of jacks connecting directly to voltmeter. Press to read switch to protect wattmeter current coil from high starting currents. Fuse protects all volt circuits. Toggle switch connects voltmeter direct to separate test jacks. Fuse protects Steel case eliminates possibility of error caused by using tester too near heavy current carrying mains. Engraved black bakelite panel. Tester is constructed for roughest usage. Hickok quality throughout. Meters may be continuously connected to circuit under test. Case designed so that appliance connecting cables may be placed inside and out of the way.

Model 145	NET \$22.50
Carrying Case with lead and parts compartment	NET \$4.20
With Watts range 1500-3000, Model 145A	NET \$27.60
Wattmeter current coil in this model designed for 15 amperes maximum.	

MODEL 155 TRACEOMETER

FOR RAPID SERVICING OF FREQUENCY MODULATED AND AMPLITUDE MODULATED RECEIVERS. SELF CONTAINED SPEAKER INTERNALLY CONNECTED FOR MONITORING EITHER R.F.-I.F. OR A.F. CHANNELS.

- Actually measure the signal in microvolts at any point in the entire RF-IF section.
- Measure the actual oscillator voltage throughout its entire range.
- Measure all of the D.C. voltages, A. V. C., A. F. C. Power Supply, etc.
- Measure any A.F. or A.C. voltage in any circuit.
- Measure the actual wattage consumption of any A.C. system to 300 watts.
- Trace the signal by means of self contained speaker through the entire R.F.-I.F. and Audio Channels.

RF-IF (LOW FREQUENCY) SECTION

Frequency Ranges
100-250 K.C., 250-650 K.C., 650-1800 K.C.

Accuracy $\pm 1\%$. Scale length — 23"

Voltage Ranges

0-5000-25,000-100,000 microvolts.
0-0.5-2.5-15.0-25.00 volts.
Basic sensitivity without cable — 0 — 25 microvolts for full scale deflection.
Input capacity — 0.85 micro microfarads.
Monitor Jack on front panel for connection to phones or oscillograph.

OSCILLATOR (HIGH FREQ.) SECTION

Frequency Ranges
600-1700 K.C., 1.7-5.0 M.C., 5.0-15.0 M.C.

Accuracy $\pm 1\%$. Scale length — 23"

Voltage Ranges

0-0.3-1.5-7.5-30.0-150.0 volts.
Basic sensitivity without cable—200 microvolts
Input capacity—1.2 micro microfarads.
Monitor Jack on front panel for checking with phones or oscillograph for modulation hum.

AF VOLTMETER SECTION

Voltage Ranges

0-0.1-1.0-5.0-10.0-50.0-100.0-500.0.
Input impedance 20 to 200,000 cycles, ± 1 D.B. Accuracy $\pm 2\%$.
Monitor Jack on front panel for oscillograph or phone use.

Wattage Range

0-300 watts. Accuracy $\pm 1\frac{1}{2}\%$.
Wattmeter connection on front panel.
Meter protection — Fuse.

FUSE PROTECTION

5 ampere fuse on front panel, fuses entire equipment including wattmeter.

VOLTAGE REGULATION

Complete Voltage Stabilization against Line Fluctuation. Self-contained voltage regulation of the vacuum tube voltmeter circuits operating the indicating meters. Pilot lamps on front panel, continuous indication when instrument is in operation. Two ground connections are provided on the front panel—one for the receiver under test and the other connection for the oscillograph or other equipment being used as a monitor. Complete operating instructions outlining in detail the use of the Traceometer.

ACCESSORIES

Complete with four universal (test probe or clip type) low capacity shielded cables and chassis connector lead. **\$123.00**
Size: 13" x 16" x 10". NET
Other than 110 volts, 60 cycles—\$3.00 Net Ex.



Size: 13" x 13" x 7"

Models 177 and 188 are identical electrically to Models 177X and 188X and are wired for crystal control but the crystal or 615 crystal tube is not included in shipment. Crystal and tube can be installed at any later date without returning the signal generator to the factory.

Model 177X	NET \$57.60
Model 188X	NET \$67.20
Model 177, less crystal	NET \$48.60
Model 188, less crystal	NET \$58.20



TEST EQUIPMENT

MODEL RFO-5 OSCILLOGRAPH

THE ONE OSCILLOGRAPH SPECIFICALLY DESIGNED FOR FREQUENCY MODULATED — AMPLITUDE MODULATED AND TELEVISION SERVICING. FOR COMPLETE VISUAL ANALYSIS Self-Contained Wide Band F.M. Oscillator, Narrow Band F.M. Oscillator, Demodulator, Video Amplifiers, Signal Tracer, Visual A.C. Vacuum Tube Voltmeter 0.2 to 1000 Volts.

USE—This Oscillograph in both R.F. and I.F. stages.

TROUBLE SHOOTING—Single or consecutive stage by stage trouble shooting from antenna post to speaker in frequency modulated, amplitude modulated and television receivers.

SELF CONTAINED: WIDE BAND—(100 to 900 K.C. Sweep) Frequency Modulated Oscillator (basic frequency 23-M.C.) for frequency modulated and television servicing.

NARROW BAND—(10-30 K.C. Sweep) Frequency Modulated Oscillator (basic frequency 1000 K.C.) for visual alignment on amplitude modulated receivers, demodulators, etc.

WIDE BAND FREQUENCY MODULATED OSCILLATOR—Can be modulated from external audio frequency source such as phonograph pickup, microphone or audio frequency oscillator to provide a frequency modulated transmitter for your own laboratory checks. No external oscillator needed since first harmonic of 23 megacycles is 46 megacycles in the center of the 43-50 megacycle frequency modulated band.

SELF CONTAINED MIXER CIRCUIT provided so that when used in connection with any good external oscillator wide band or narrow band frequency modulated outputs may be produced within the frequency limits of the external oscillator.

VISUAL ALIGNMENT of any R.F.-I.F. stage in any frequency modulated or amplitude modulated receiver.

ONLY IN THE MODEL RFO-5 WILL YOU FIND ALL THESE IMPORTANT FEATURES

1. Self-contained wide band frequency modulated signal generator.
2. Self-contained narrow band frequency modulated signal generator.
3. Return trace eliminator (simplifies alignment of A.F.

- and H. F. Circuits).
4. Horizontal amplifier for sweep expansion.
5. High sensitivity amplifiers (0.2 volts per inch).
6. Trapezoidal patterns for percent modulation measurements.
7. Calibrated screen.
8. Cathode ray tube rotation adjustable by means of flexible mounting.
9. Easy operation due to simplicity of control locations.
10. Video Amplifiers.
11. Signal tracer.
12. Variable width frequency modulated sweep.
13. Fuse protection.
14. Pilot light.
15. Phasing control.

UNIVERSAL DESIGN—Every facility for research and laboratory measurements. Model RFO-5 is made up of seven different units: Horizontal panel, Tube Panel, Vertical Panel, Demodulator, Synchronization and Return Eliminator Panel, Sweep Circuit Oscillator Panel and Radio Frequency Modulator Panel. Each section contains the control needed for all oscillographic measurements.

For complete visual analysis and trouble shooting, some method is necessary for viewing the high frequency signal before it reaches the second detector and is demodulated to an audio frequency. Only in the Model RFO-5 is the usefulness of the oscillograph extended to make these measurements and tests. This is made possible by the incorporation of a video (wide band) amplifier which permits frequencies up to 3.5 megacycles to be amplified and viewed on the anode ray tube screen. Also by the incorporation of a demodulator and suitable amplifier, the R.F. signal can be picked off any place from the antenna to the second detector, demodulated and viewed directly on the screen.

SIGNAL TRACER—It is often desirable to be able to follow the signal from the antenna post on to the speaker by means of a pair of ear phones or auxiliary loud speaker. The signal tracer in the Model RFO-5 enables this to be done by merely connecting the phones into the jack on the front panel and setting the vertical control switch to the demodulator position. The signal can then be heard as well as seen simultaneously as it is traced through the receiver. Size 11" x 13" x 15 1/2". **NET \$97.20**



MODEL 19X CRYSTAL CONTROLLED MICROVOLTER

CALIBRATED OUTPUT IN MICROVOLTS FROM 100 KC TO 30 MEGACYCLES

Self-contained vacuum tube voltmeter, power level meter and crystal give more measurements than any other signal generator. **Over 250 Crystal Controlled, modulated or unmodulated outputs:** from 100 KC to 15,000 KC every 100 KC and from 1000 KC to 100 megacycles every 1000 KC. Accuracy better than .01%. **Gain per Stage—Selectivity—Sensitivity:** All standardized by self-contained vacuum tube voltmeter. Calibrated Output Range: R.F.—1/2 microvolt to 100,000 on all ranges; A.F.—0 to 1.0 volt. **Decibels, Triple Ranges:** —10 to +6, +6 to +22, +22 to +38 db. 100 inches of direct reading frequency scales. Accuracy better than 1/2%. Radio Frequency Ranges Calibrated Directly 100 KC to 60 Megacycles.

Crystal Control: Model 19 includes a built-in crystal oscillator providing a modulated or unmodulated output accurate to better than 100 parts in one million. Selection of either 100 KC or 1000 KC by merely turning Band Selector switch to desired frequency. Crystal can be used for checking or calibrating the main variable oscillator throughout its entire range. **Modulator:** The 400 cycle modulator supplies the 400 cycle modulating voltage for the radio frequency section and modulates this to approximately 85% throughout the entire range of the radio frequency oscillator. The output from this modulator may also be switched to the attenuator network so that a 400 cycle calibrated audio output of 1.0 volt is available. **Attenuator:** The input to the attenuator serves the dual purpose of attenuating either the radio frequency or audio frequency output to a predetermined level across the attenuator output. This gives direct calibration of the radio frequency section from 1/2 microvolt to 100,000 microvolts on all ranges and from 0-1.0 volts of audio frequency. The built-in vacuum tube voltmeter is used to standard the voltage across the attenuator network so that the calibration of this unit holds true. **Decibel Meter and Vacuum Tube Voltmeter:** The built-in decibel meter is so arranged that it can be either connected into the vacuum tube voltmeter circuit or switched to an external circuit which provides the calibration of the

output circuit does not in any way upset the calibration or frequency of the signal generator and thereby provides a means of setting exact input in microvolts to a receiver. **Radio Frequency Coils:** All radio frequency coils are wound on ceramic forms and impregnated with special lacquer, making them moisture proof and not subject to inductance change with humidity or temperature. Each coil is individually calibrated for inductance and air-trimmed for capacity, thereby giving an accuracy better than 1/2% on all radio frequency ranges. **Shielding:** Each high frequency unit in the signal generator is completely shielded, giving triple shielding on the radio frequency output. Triple filtering is also used in the power supply input. **Accessories:** Supplied complete with self-contained dummy antenna, necessary cables, and concise, practical operating instructions. Size 13" x 6" x 7". **NET \$87.00**



Size: 11" x 13" x 7"

MODEL 110 UNIVERSAL VACUUM TUBE VOLTMETER

DUAL PURPOSE — UNIVERSAL DESIGN

Seven D.C. Ranges: 1.5-3.0-15-75-150-750-7500 Volts.

High Frequency A.C. Voltmeter Four Ranges: 1.5-3-50-150 Volts.

High Frequency Voltmeter: The high frequency A.C. voltmeter utilizes a type 355 acorn low capacity tube at the end of the test probe so that the loading of the circuit under test is held to the low value of approximately 5 micro-micro-farad capacity.

Frequency Error: With the test probe in place, the resonance frequency of the input circuit is approximately 150 megacycles and negligible frequency error may be expected up to this value. If it is necessary to measure frequencies above this the test probe may be removed increasing the resonance frequency to over 200 megacycles.

Zero Adjust: A single zero adjustment is necessary for all of the high frequency and D.C. ranges and once this has been set it is possible to change to any range without resetting to zero.

Overload: Another desirable feature of the A.C. and D.C. ranges is that excessive overload cannot in any way damage the meter or equipment. In fact two or three hundred volts can be accidentally applied to the 1 1/2 volt A.C. range with little possibility of a damage to the equipment. When measuring A.C. voltages it is not necessary to provide a D.C. return path between the input circuit and ground since the input circuit is taken through a capacity to the diode rectifier and then on to a D.C. amplifier.

D.C. Voltmeter: Seven ranges of D.C. are provided with zero center so that the chassis or ground of the voltmeter may be connected direct to the chassis of the receiver or television set under test, and if the voltage under test is positive with respect to ground the meter will read up scale and if negative with respect to ground the meter will read down scale. The input impedance of the D.C. section is 24 megohms up to 150 volts and 700 megohms up to 7500 volts.

Power Supply: 100 to 130 volts A.C. 40 to 60 cycles. Other voltages and frequencies available at slight extra cost. Power consumption 20 watts.

Tube Complement: 6X5 Rectifier, 955 vacuum tube voltmeter tube, and 6K5G vacuum tube voltmeter amplifier. **NET \$54.00**



TEST EQUIPMENT



210S—Size: 13" x 16" x 7"

Ranges:

- D.C. Volts—0-2.5-10-50-250-500 infinite ohms per volt.
- D.C. Volts—0-2.5-10-50-250-500-2500 at 1000 ohms per volt.
- A.C. Volts—0-2.5-10-50-250-500-2500 at 1000 ohms per volt.
- D.C. Microamperes—0-500.
- D.C. Milliamperes—0-2.5-10-50-250-500.
- D.C. Amperes—0-2.5-25.
- A.C. Amperes—0-5.
- Capacity—Three ranges covering from .0001 mfd. to 200 mfd.
- Resistance—Four ranges covering from .05 ohms to 50 megohms.
- Decibels—Three ranges from -20 to +43.

Model 4800S Portable Zero Current Voltmeter Tester

With built-in Multi Selector Unit, and socket analysis cable.

The portable Model 4800S includes many of the features listed for the Model 210X above, but is not intended to be mounted in the Paneline.

It may be mounted in the Model 80 Show-Lab, BUILT-IN MULTI SELECTOR UNIT.

Cables and Accessories for All Tubes—New improved long life jacks for series or parallel connections. Connections may be made to any or all tube elements. Gives quick and convenient method for complete socket analysis without disturbing any of the connections in the set under test.

Ranges:

- D.C. Volts—0-10-50-250 at infinite ohms per volt (Zero Current Voltmeter).
- D.C. Volts—0-2.5-10-50-250-500-2500 at 1000 ohms per volt.
- A.C. Volts—0-2.5-10-50-250-500-2500 at 1000 ohms per volt.
- D.C. Microamperes—0-500.
- D.C. Milliamperes—0-1-5-50-500.
- Decibels—Three ranges from -20 to +43.

MODELS 210S & 4800S ZERO CURRENT VOLTMETER TESTERS

INFINITE OHMS PER VOLT

The giant Model 210S with its 9 3/4" meter is the most recent addition to the complete coverage testers featuring the famous Hickok Zero Current Voltmeter circuit. You can now get zero current testers in compact portable type with suitable carrying case or a larger display panel type for mounting in your Paneline. Special ranges have been included for television service and additional low ranges give more accurate measurements of the smaller values.

The Zero Current Voltmeter Offers Many Advantages—Infinite ohms per volt. It is no longer necessary to worry along with 5000, 20,000 or 25,000 ohms per volt when you can have infinite ohms per volt with absolutely no current drain from the cir-

cuit under test. AVC, AFC and other high resistance circuit voltages are accurately measured without disturbing the operation of the set. Connection can be made directly to the grid cap of any RF or IF tube to measure the operating bias voltage directly.

Model 210S Jumbo Radio and Television Zero Current Tester—

DISPLAY PANEL TYPE

Meter—Large open face Hickok built meter 9 3/4" wide x 8 3/4" high with a scale length of 8 3/4". Illuminated Scale—1 colors.

General—Case 13" high x 16" wide x 7" deep. Finish in blue wrinkle with etched aluminum panel.

Special Features:

The 5 ampere A.C. range is wired directly through to a convenience outlet on the front of the panel where any receiver or other appliance may be plugged in and the power consumed by it measured directly on the 5 ampere A.C. scale of the meter. The circuit is so constructed that this receptacle is completely isolated from all other meter circuits so the test prods may be used for any other ranges without danger of coming in contact with this 110 volt circuit.

All ranges and functions have been grouped around rotary switches for the greatest convenience of operation. All voltage and current ranges are selected by the one five position rotary switch to the left of the meter and all other ranges, with the exception of some that are included for special purposes, are grouped around the selector switch to the right of the meter.

All balancing rheostats and potentiometers are controlled by the one knob below the meter.

Resistance—Five ranges covering from .1 ohm to 10 megohms.

Capacity—Five ranges covering from .0001 mfd. to 200 mfd.

Decibels, Impedance, Inductance and A.C. ripple (hum) measurements.

Special External Shunts—The Model 4800-S is calibrated in millivolts so external shunts can be used for higher D.C. current ranges. A specially designed two range shunt, 5-50 amperes (250MV), is available at slight extra cost. Other shunts on special order.

Special Guaranteed Rectifier

The rectifiers used in the A.C. voltmeter circuits of the Model 4800-S and Model 210X are of special heavy duty construction and are guaranteed to maintain their calibration against normal use and accidental overload. Any rectifier in the above instrument found to be defective will be replaced free of charge in our factory or at any of our authorized repair stations within a period of one year.



4800S—Size: 10" x 12 3/4" x 5"

MODEL 210S

MODEL 4800-S

NET \$63.00
NET \$67.20

VOLT OHMMILLIAMMETERS

RUGGED, HIGH TORQUE METERS — GUARANTEED RECTIFIER CIRCUITS HIGH ACCURACY

The models 4955S and 4922S, Volt-Ohm-Milliammeters have been standard equipment for service bench and portable use with leading service men for years. Both have the following ranges:

- A.C.-D.C. Volts—0-10-50-250-500-2500, 1000 ohms per volt.
- Output—0-10-50-250-500-2500. Blocking condenser in circuit.
- D.C. Microamperes—0-500.
- D.C. Milliamperes—0-1-5-50-500.
- A.C. Milliamperes—0-1.
- Ohms—0-30-10,000-1 meg.-10 meg.

GUARANTEED ACCURACY—The accuracy of each tester is stated as percentage of full scale deflection within the temperature range of 50 degrees to 90 degrees Fahrenheit. The instruments incorporate a new type rectifier and circuit which will withstand more overload than other types. The rectifier is guaranteed against accidental overload for one year.

The instrument used in these Volt-Ohm-Milliammeters are especially built by Hickok for this service. The movement is large and rugged, and a very high torque-weight ratio gives lively, instantaneous pointer action. Large open face dial. The movement is curve corrected by an exclusive Hickok process which gives a higher accuracy at all points on the scale. Permanently correct calibration. These complete self-contained units are suited for industrial applications owing to rugged construction. All parts are of the highest standard of quality and all resistors are moisture proof and accurately adjusted. These are the finest Volt-Ohm-Milliammeters obtainable today. Regular leads supplied are 4' long with special insulated pin prods of proper diameter for insertion in the latest type tube socket.



Model 4955S Regular 4 inch meter—Four color scale. Accuracy within 2%. Size: 7" x 4 1/2" x 3 1/2"



Model 4922S Jumbo 9 inch meter—Decibel Scale. Size: 10" x 13" x 7 1/2"

Model 4955S

Model 4955S, with Carrying Case

Model 1001-4, Shunt for increasing range to 5 and 50 amperes.....\$5.70

NET \$27.60

NET \$29.40

Model 4922S

Model 1001-4, Shunt for increasing range of either model to 5 and 50 amperes

NET \$38.40

SIMPSON

Instruments that
STAY accurate

MODEL 400 TUBE TESTER



Model 400

Never before has a manufacturer of test equipment gone so far in tube tester design. With new tubes appearing on the market in ever increasing number, no manufacturer can guarantee any tube tester against obsolescence. Simpson, however, has incorporated in the Model 400 more features to guard against obsolescence than are found in any other tube tester.

SEPARATE UNIT DESIGN. The front panel is divided into three sections—the tube sockets, the meter proper with its knobs and switches, and the roll chart. Complete new units may be ordered to replace the socket panel or roll chart. You need never be without a tube tester. We allow credit on units returned.

SPARE SOCKETS. In addition to sockets for every type of tube 2 spares are provided.

SIMPLIFIED OPERATION. The roll chart designates the setting of each knob and switch and black lines indicate which controls should be set.

NEW SWITCHING SYSTEM. The new 3-way switches make it possible to test Multi-purpose tubes no matter how the elements are grouped or inter-connected.

SPEED ROLL CHART. A geared mechanism producing smooth trouble-free operation.

TUBE INDEX. In addition to the regular listing of tubes according to tube classification, a numerical index is provided at the right hand side of the roll chart for quick identification.

WRITE IT WINDOW. The window plate over the roll chart has been made removable so new tube settings can be marked on the chart.

REPLACEABLE ROLL CHART. Should the roll chart become too crowded, or if

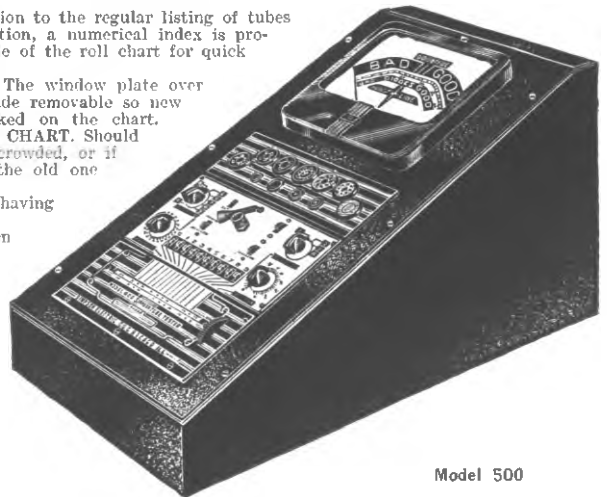
a new chart is desired, a complete new unit may be purchased and the old one returned for credit of the salvage value.

YOUR NAME ENGRAVED FREE. Ownership is established by having your name engraved on the panel. We do it free.

SIMPSON PRECISION. The heart of the tester is the Simpson fan shaped instrument with soft iron pole pieces and bridge type construction. Your guarantee of long life and accuracy.

Size 10 1/2" x 13 1/2" x 4". Shipping weight 16 lbs.

Dealers' Net Price \$36.00
Durable leatherette carrying case with removable cover \$5.00



Model 500

MODEL 500 TUBE TESTER

This modern tube merchandiser possesses all of the basic features which are built into the Model 400, plus a large 9" meter and a display type cabinet. May be used in either vertical or horizontal position by reversing the position of the panel.

Size 14" x 23" x 12". Shipping weight 30 lbs.

Dealers' Net Price \$43.00

MODEL 450 TUBE & SET TESTER

The Model 450 provides filament voltages from .5 to 120 Volts. It tests locals, single ended tubes, bantams, midjets, miniatures, ballast tubes, gaseous rectifiers, Christmas tree bulbs and all popular radio tubes.

The tube testing circuit incorporates the new Simpson method of 3-way switching which makes it possible to test any tube regardless of its base connections or the internal connections of its elements. It provides sockets for 4, 5, 6 and 7 prong tubes, and locals, bantams and miniatures as well. A spare socket and an extra toggle switch reduce the possibility of obsolescence.

Tube charts in book form are conveniently packed into the cover of the case. Supplements are published periodically.

As a set tester, the Model 450 is entirely A.C. operated, D.C. voltage for ohmmeter ranges being supplied by tube rectification. Simpson wire-wound resistors are used throughout with the exception of high voltage ranges where matched metallized units are employed. There are

Eight A.C. and D.C. Voltage ranges at 1000 ohms per volt: 0-7.5, 30, 75, 150, 300, 750, 1500, 3000 Volts.

Five resistance ranges: 500 ohms (30 ohms center); 50,000 ohms (500 ohms center); 500,000 ohms (5000 ohms center); 5 megohms (50,000 ohms center); 50 megohms (500,000 ohms center).

Five Milliampere ranges: 0-3, 15, 75, 300, 750 MA.

Five Decibel Ranges: -70 to +40 D.B.

All A.C. Voltage ranges may be used for output measurements.

Size 10" x 11" x 5 1/2" Weight 10 lbs.

Dealers' Net Price \$39.75

Shipping weight 14 lbs.



Model 450

MODEL 300 TUBE TESTER

Attractive appearance, compactness and remarkable versatility are combined in this totally redesigned and even finer version of the tube tester that has already become highly popular as the Model 333. It provides for filament voltages from .5 volts to and including 120 volts. It tests locals, single ended tubes, bantams, midjets, miniatures, ballast tubes, gaseous rectifiers, Christmas tree bulbs and all popular radio receiver tubes.

Like all Simpson Tube Testers the Model 300 incorporates the new method of 3-way switching which makes it possible to test any tube regardless of its base connections or the internal connections of its elements. No adapters or special sockets are required. In addition to having a complete set of sockets for every tube now on the market, this tester has two spare sockets, one large and one small, to provide for future tube developments.

There is no more attractive tube tester than the Model 300 with its two-tone metal panel in red and black on a steel grained background. Sockets and controls are symmetrically arranged for quick operation. The carrying case is well made and covered with long-wearing leatherette. The large, modern-fan-shaped instrument has an exceptionally long scale. It has "good" and "bad" English markings; also a percentage scale for matching and comparing tubes. Simplified instructions and tube charts in book form are carried conveniently in the cover.

Size 8" x 10 3/4" x 5 1/2" Weight 8 lbs. Shipping weight, 12 lbs.

Dealer's Net Price \$26.50



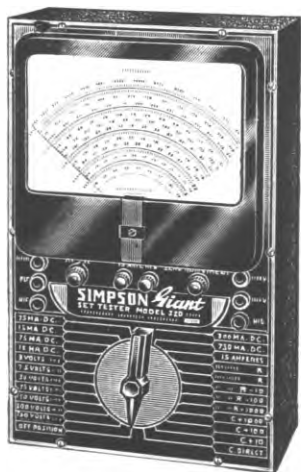
Model 300

SIMPSON

Instruments that
STAY accurate

Giant SET TESTER

MODEL 320



The first Set Tester to incorporate a truly giant meter—9" wide and 8 1/4" high with rectangular, modernistic design in attractive Bakelite case. Scale is actually 9" long, and has been designed for utmost readability. It is also the first set tester of its type to incorporate 50 ranges. All D.C. scales are in black and A.C. scales in red. Dial is metal with a silver etched background. Knife edge pointer, permits close, accurate readings. The instrument is indirectly illuminated by means of two 6-volt bulbs, mounted in the lower portion of the case.

The beautiful metal panel is excellently arranged, permitting quick selection of ranges. Its two-tone red and black characters provide a rich contrast with the steel grained background. The range selector is controlled by means of a large streamlined Bakelite handle. Cabinet is of steel in the new black "wrinkled enamel" finish.

The Simpson Giant Set Tester is entirely A.C. operated and requires no batteries of any kind. Test leads, insulated for 3,000 volts, are furnished with each instrument. All voltage ranges both A.C. and D.C. have a resistance of 1,000 ohms per volt.

RANGES:

Volts 0-3-7.5-30-75-150-300-750-1500-3000. Both A.C. and D.C. All A.C. ranges may be used for output measurements.

Milliamperes 0-1.5-7.5-15-75-300-750 (D.C. only).

Amperes 0-15 (D.C. only).

FIVE RESISTANCE RANGES

0-500 (20 ohms center)

0-50,000 (400 ohms center)

0-500,000 (4000 ohms center)

0-5 Megohms (40,000 ohms center)

0-50 Megohms (400,000 ohms center)

FOUR CAPACITY RANGES

.0001 to 50 Microfarads

0-.050 Microfarads

0-.5 Microfarads

0-5 Microfarads

0-50 Microfarads

7 Decibel Ranges from -20 to +48 DB

Dimensions 10" x 16" x 5"

Weight 12 lbs.

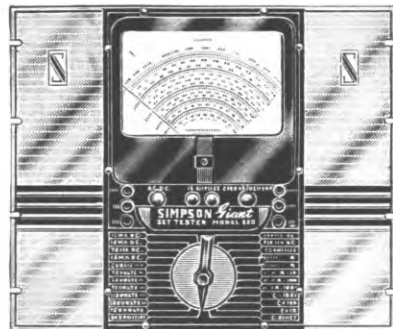
Shipping Weight 16 lbs.

Dealers' Net Price **\$37.50**

Rack Mountings for Models 320 and 325

Model 320 Set Tester, or Model 325 Tube Tester, can be furnished with two wings, beautifully finished in keeping with the testers and slotted for quick installation on standard rack mounting.

Dealers' Net Price (per pair) **\$3.00**



MODEL 310 SIGNAL GENERATOR

Fundamental Frequency Range: 75 Kilocycles to 30 Megacycles

Designed for maximum stability, lasting accuracy, minimum leakage and good waveform. Meter-type dial with knife edge pointer enclosed in large 9-inch bakelite cover and glass, assures easy reading. Smooth vernier control permits close settings.

CIRCUIT: Electron coupled circuit assures extreme stability and output uniformity throughout band. Standard 30% modulation at 400 cycles is used.

OUTPUT: Signal is controlled through step attenuator of the ladder type. Volume level of each step is regulated by a smooth non-inductive control providing R.F. output from 1/2 microvolt to 0.1 volts, and approximate 400 cycle output from zero to 5 volts.

BANDS: Six R.F. coils provide ranges of 75-200; 200-600; 600-1700 kilocycles and 1.5-4.5; 4-12; 10-30 megacycles. Coils retain original inductance regardless of temperature or humidity changes. Special switch eliminates "dead spots."

SHIELDING: Coils, attenuator and signal selector individually shielded. Oscillator and modulator assemblies sealed in rigidly welded, entirely enclosed chassis. Effective line filter used. Line cord is shielded. Leakage is negligible.

CALIBRATION: Each coil individually calibrated to close tolerances against crystal standards. Tests show negligible changes over long period of time with extreme temperature and humidity variations.

Size: 16" x 10" x 6". Weight 15 lbs.

Dealers' Net Price—Model 310 Signal Generator, 110 V, 60 cycle. **\$37.50**

MODEL 350 TUBE TESTER

Model 350 Tube Tester provides for a complete range of filament voltages from .5 to 120 Volts. It tests local, single ended tubes, bantams, midjets, miniatures, ballast tubes, gaseous rectifiers, Christmas-tree bulbs and every type of radio receiver tube known.

Here is a counter tester and tube merchandiser of outstanding value. It includes a new large rectangular meter with a 7" scale housed in a modern bakelite case. The silver etched dial is attractively colored in red, green and black and illuminated indirectly. The beautiful metal panel has a finely grained nickel background with characters in red and black. Cabinet is of heavy gauge steel in black wrinkled enamel finish.

The circuit employed in the Model 350 tester utilizes the new 3 way switching employed in the higher priced testers. This arrangement makes it possible to test any tube, regardless of its base connections, or internal connections of its elements. Sockets for all known tubes and two spares are provided.

Simplicity of operation is the keynote of design in this up-to-the-minute tester. Tube charts are printed in large clear type—easy to read and follow. Model 350 may also be used in a horizontal position by reversing the position of the panel.

Size 10" x 18" x 10"

Weight 16 lbs.

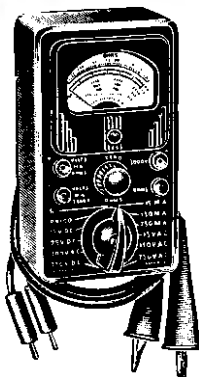
Shipping weight 20 lbs.

Dealers' Net Price **\$35.00**



SIMPSON

Instruments that
STAY accurate



Model 240

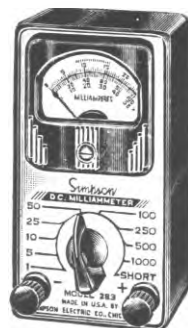
Micro-Testers

Simpson Micro-Testers represent a new idea in the form and use of testing instruments. Each of these compact, finely built instruments covers a complete zone of electrical measurements. Model 280 for example, is the first low cost A.C. ammeter ever offered that combines an indicating instrument with a current transformer providing 5 ranges. Models 280 to 288 inclusive blanket 55 ranges of current voltage and resistance. Any three can be combined in a handy carrying kit to provide a low cost combination unit.

Models 230, 235 and 240 are combination instruments used for general testing or servicing. Model 245, which tests batteries the right way, under load, completes the line.

All Micro-Testers are housed in sturdy red moulded bakelite cases with matching red bakelite meter cases. Models 280 to 288 inclusive, have silver finish metal panels and are furnished with binding posts. All other models have bakelite panels and jacks. Size 2 7/8" x 5 1/4" x 1 3/4"

Average weight 20 ounces



Model 283

280 AC Ammeter	0-1-2.5-5-10-25 Amps	\$9.75	230 AC-DC Volt Ohm MA	0-10-250-1000 AC Volts	
281 AC Voltmeter	0-150-300-600 Volts	9.25		0-10-50-250-1000 DC Volts	
282 Ohmmeter	0-1000-10000-100000 Ohms			0-100-500 DC MA	
	0-1-10 Megohms	9.75		0-1000-10000 Ohms	\$14.25
283 DC Milliammeter	0-1, 5, 10, 25, 50, 100, 250, 500, 1000 MA	9.25	235 DC Volt Ohm MA	0-10, 50, 250, 500, 1000 Volts	
284 DC Microammeter	0-50, 100, 250, 500, 1000	9.75		0-10, 100, 500 MA	
285 DC Ammeter	0-1-2.5-5-10-25 Amps	9.25		0-250 Microamps	
286 AC Voltmeter (Rectifier)	0-5, 10, 25, 50, 100, 250, 500, 1000 Volts	9.75		0-2000-20000 Ohms 2 Megs	9.95
287 DC Voltmeter	0-1, 2.5, 5, 10, 25, 50, 100, 250, 500, 1000 Volts	9.25	240 AC-DC Volt Ohm MA (Hammer)	0-15, 150, 750, 3000 AC Volts	
288 AC Milliammeter	0-5-25-100-250-1000 MA	9.75		0-15, 75, 300, 750, 3000 DC Volts	
				0-15, 150, 750 DC MA	
				0-3000-300000 Ohms	14.75
				245 Load Type Battery Tester and DC Voltmeter	
				Tests all dry batteries under load.	
				0-2-4-8-50-100-150 DC Volts	7.85

MODEL 260 VOLT-OHM MILLIAMMETER FOR TELEVISION and RADIO SERVICING

Ranges to 5000 Volts—Both A.C. and D.C.

20,000 Ohms per volt D.C.

1,000 Ohms per volt A.C.

The greatest dollar value ever offered in testing equipment of high sensitivity. Practically negligible current draw assures remarkable accuracy on all voltage ranges. Batteries are self contained. Particularly adaptable to measuring A.C.F.—A.V.C. bias of power detectors and television circuits which cannot be checked with ordinary servicing instruments. Large 4 1/2" meter.

RANGES:

VOLTS 0-2.5-10-50-250-1000-5000
MILLIAMPERES 0-10-100-500
MICROAMPERES 0-100

DECIBELS (5 Ranges) —10 to +55 DB
OHMS 1000 (12 Ohms center)
100,000 (1200 Ohms center)
0-10 Megs (120,000 center)

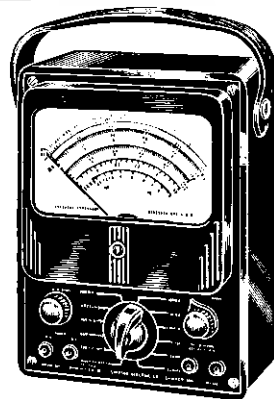
SIZE: Width, 5 1/2", Height, 7", Depth, 3"

Dealers' Net Price \$27.50

MODEL 215

Same instrument as Model 260 except D.C. resistance 5000 ohms per volt and A.C. resistance 1000 ohms per volt also resistance ranges to 4 megohms. All other ranges identical.

Dealers' Net Price \$22.85



275 RADIO SET TESTER

ROTO RANGER—10,000 Ohms per Volt

The same substantially built Roto Ranger mechanism found in other Simpson testers is now incorporated in this new high sensitivity set tester. Drawing current of only 100 microamperes, it does not materially affect present day receiver circuits and more accurate readings result. Also, higher resistance ranges are available. Black and silver modernistic metal panel—black leatherette carrying case and large 4 1/2 inch Roto Ranger instrument.

RANGES: D.C. at 10,000 ohms per volt—A.C. at 1,000 ohms.

D.C. Volts 0-10-50-300-1000
A.C. Volts 0-8-150-1000
OHMS 0-2,000-200,000-20 Megohms
MILLIAMPERES 0-10-100-500
MICROAMPERES 0-100

Dimensions: 12" x 9" x 5 1/2" Weight 7 lbs.

Dealers' Net Price..... \$34.50



202 ROTO RANGER A.C.—D.C. Ohms per Volt

RANGES:

A.C. Volts 0-8-130-1000
D.C. Volts 0-8-300-1000
D.C. Milliamperes 0-1-8-300

Ohms 0-100 (Center Scale 5)
0-50,000 (Center Scale 1400)
0-2 Megohms (Center Scale 21,000)

Size: 8 3/4" x 7" x 4 1/2"

Weight 6 lbs.

Shipping Weight 12 lbs.

Dealers' Net Price \$29.50

SIMPSON

Instruments that
STAY accurate

The only low priced instruments incorporating "soft iron pole pieces" and "bridge type" construction, insuring greater accuracy. Simpson Instruments STAY accurate.



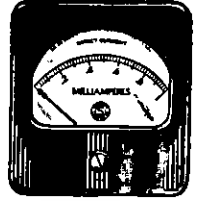
Model 25—3"
Model 125—2"

3" Round Case
Direct Current—Model 25
Thermocouple Type Model 35
Rectifier Type Model 45
Alternating Current—Model 55
Flange Diameter 3 1/2"
Depth Overall 1 1/8"
Body Diam. 2 3/4"
Scale Length 2 1/8"
Bakelite Case

2" Round Case
Direct Current—Model 125
Thermocouple Type Model 135
Alternating Current Model 155
Flange Diameter 2 1/8"
Depth Overall 1 1/8"
Body Diameter 2 1/4"
Scale Length 1 1/8"
Metal case—Rim type
Bakelite Case—Wide Flange

3" Rectangular
Direct Current—Model 27
Thermocouple Type Model 37
Rectifier Type Model 47
Alternating Current Model 57
Width 3 in. Height 3 1/2 in.
Mounts in round hole
Body diameter 2 3/4 in.
Bakelite Case

2" Rectangular
Direct Current—Model 127
Thermocouple Type Model 137
Alternating Current Model 157
2 1/8 in. Square
Mounts in round hole
Body diameter 2 1/2 in.
Bakelite Case



Model 27—3"
Model 127—2"

DIRECT CURRENT VOLTMETERS

Range	Model 25 (Round) and 27 (Rectangular)
	List
0-3	\$6.35
0-5	6.35
0-8	6.35
0-10	6.35
0-15	6.35
0-25	6.35
0-50	6.35
0-100	6.35
0-150	6.35
0-200	7.75
0-250	7.75
0-300	9.00
0-500	12.25*
0-1000	13.60*
0-1500	13.60*
0-2000	13.60*
0-2500	13.60*
0-3000	13.60*
0-4000	13.60*
0-5000	18.35*

DIRECT CURRENT MILLIAMMETERS

Range	Model 25 (Round) and 27 (Rectangular)
0-1	\$7.75*
0-1.5	7.75
0-3	7.75
0-5	6.35
0-10	6.35*
0-15	6.35
0-20	6.35
0-25	6.35*
0-50	6.35*
0-75	6.35
0-100	6.35*
0-150	6.35*
0-200	6.35*
0-250	6.35*
0-300	6.35*
0-500	6.35*
0-750	6.35*
0-1000	6.35*
0-15-150	10.00
0-50-250	10.00

DIRECT CURRENT MICROAMMETERS

Range	Model 25 (Round) and 27 (Rectangular)
0-100	\$15.00
0-200	13.25
0-500	10.00

DIRECT CURRENT AMMETERS

Range	Model 25 (Round) and 27 (Rectangular)
0-1	\$6.35
0-1.5	6.35
0-3	6.35
0-5	6.35
0-10	6.35
0-25	6.35
0-50	6.35
30-0-30	6.35

ALTERNATING CURRENT VOLTMETERS

Range	Model 55 (Round) and 57 (Rectangular)
0-1.5	\$6.35
0-3	6.35
0-5	6.35
0-10	6.35*
0-15	6.35*
0-25	6.35
0-50	6.35
0-100	6.35
0-150	7.75*
0-300	9.00
0-500	12.25
0-750	14.00
0-1000	17.75
7.5-15-150	12.75
7.5-150-750	17.75

ALTERNATING CURRENT AMMETERS

Range	Model 55 (Round) and 57 (Rectangular)
0-1	\$6.35
0-1.5	6.35
0-3	6.35
0-5	6.35
0-10	6.35
0-15	6.35
0-25	7.75
0-50	10.00

ALTERNATING CURRENT MILLIAMMETERS

Range	Model 55 (Round) and 57 (Rectangular)
	List
0-15	\$6.35
0-25	6.35
0-50	6.35
0-100	6.35
0-250	6.35
0-500	6.35

RADIO FREQUENCY INSTRUMENTS (Internal Thermocouple) AMMETERS

Range	Model 35 and 37
0-1	\$7.00*
0-1.5	7.00*
0-2	7.00*
0-2.5	7.00*
0-3	7.00*
0-5	7.00*

MILLIAMMETERS

Range	Model 35 and 37
0-150	\$3.00
0-250	8.00
0-500	8.00

DECIBEL METERS

Calibrated for use on 500 ohm line. Power 6MW. Zero DB = 1.73 Volts Model 45—3 inch round case. Model 47—3 inch rectangular case. Scale —10 to +6 DB.

GENERAL PURPOSE TYPE List
45 or 47—Resistance 2500 ohms \$12.00
45 or 47—Resistance 5000 ohms 15.00

HIGH SPEED TYPE
45 or 47—Resistance 5000 ohms \$22.00

LOW SPEED TYPE
45 or 47—Resistance 5000 ohms \$22.00
All instruments listed above available with illumination at 75c extra.

GENERAL PURPOSE TYPE
Model 145—2 inch round case.
Model 147—2 inch rectangular case.
145 or 147—Resistance 2500 ohms \$10.00
145 or 147—Resistance 5000 ohms 13.00

***ILLUMINATED DIALS**
Models 27, 37, 57 and 127 in ranges indicated by asterisks, are available with illuminated dials. They are supplied complete with 6-volt lamp and attractive translucent dial at 75c list above price shown.

2" ROUND & RECTANGULAR INSTRUMENTS

DIRECT CURRENT MILLIAMMETERS

Range	Model 125 (Round) and 127 (Rectangular)
	List
0-1	\$6.50*
0-5	5.35*
0-10	5.35*
0-15	5.35
0-25	5.35
0-50	5.35*
0-75	5.35
0-100	5.35*
0-150	5.35*
0-200	5.35*
0-250	5.35*
0-300	5.35*
0-500	5.35*
0-1000	5.35*

D. C. VOLTMETERS

Range	Model 125 (Round) and 127 (Rectangular)
0-5	\$5.35
0-10	5.35
0-15	5.35
0-50	5.35
0-100	5.35
0-150	5.35
0-300	6.50

D. C. AMMETERS

Range	Model 125 (Round) and 127 (Rectangular)
0-1	\$5.35
0-5	5.35
0-10	5.35
0-15	5.35
0-25	5.35
0-50	5.35

A. C. VOLTMETERS

Range	Model 155 (Round) and 157 (Rectangular)
0-5	\$5.35
0-10	5.35
0-15	5.35
0-25	5.35
0-50	5.35
0-100	5.35
0-150	6.50
0-300	8.00
0-500	11.00

A. C. AMMETERS

Range	Model 155 (Round) and 157 (Rectangular)
0-1	\$5.35
0-3	5.35
0-5	5.35
0-10	5.35

RADIO FREQUENCY AMMETERS

Range	Model 135 and 137
	List
0-1	\$6.00
0-1.5	6.00
0-2	6.00
0-3	6.00
0-5	6.00

Model 125 furnished in wide flanged bakelite case.

Model 125 Rim type is furnished with metal case and mounting rim, when specified.



RADIO CITY PRODUCTS CO.

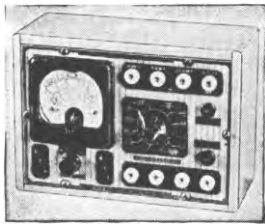
Dependable

TESTING EQUIPMENT



SUPERTESTER—Model 411

Ideal for Serviceman, Ham, Electrician, Engineer and Experimenter. The equivalent of 33 individual fine instruments in one. Measurements never before available from 4 microamps to 25 amperes. Also current in A.C. mls and amps—high voltage A.C.-D.C.



3 inch square meter with movement of 200 microamperes or 5,000 ohms per volt. ● D.C. Volts 0/10/100/250/1000/5000. ● D.C. Amps 0/1/10/25. ● D.C. Milliamps 0/10/100. ● D.C. Microamps 0-200. ● Center of scale, on low ohm-meter range, only 5 ohms, with each of first ten divisions measuring 0.1 ohm. ● 3 stage easy reading, high ohm-meter range up to 4,000,000 ohms. ● A.C. Volts 0 10/100/250/1000/5000. ● A.C. Amps 0/2.5/5/25. ● A.C. Milliamps 0/500. ● db meter from -10 to +69 in 5 stages. ● Output meter same as A.C. volts. ● Natural finish wood case 7 1/2"x5 1/2"x3 1/2". ● Weight 2 lbs. 3 oz. Model 411 complete with batteries.

\$16.25

DEALER NET PRICE

Model 411B—Same as Model 411 with additional provision for speedy testing of all ballast tubes with octal bases.

DEALER NET PRICE

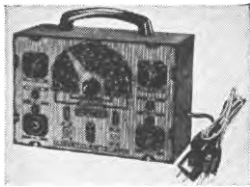
\$17.95

Model 411P—Same as 411 except in piano finish, portable, hinged cover, solid walnut case. **DEALER NET PRICE \$17.95**

Model 411BP—Same as 411B except in portable, piano finish, hinged cover, solid walnut case. **DEALER NET PRICE \$19.45**

Master Signal Generator—Model 702

All of the very latest improvements in circuit and mechanical design are embodied in this fine new accurate oscillator. Wide all wave coverage from 95 Kilocycles to 100 megacycles. Five fundamental bands include 95 KC to 25 MC. Accurately calibrated, direct reading—no charts or tables required. Tuning either directly or by a 5 to 1 ratio planetary drive—particularly desirable for spotting I.F. positions correctly. No charts or tables required. Both modulated and unmodulated output. Thirty per cent modulation at 400 cycle sine wave and is also available for external use, 6 volts maximum. Provision also for applying external modulation. Can be used with separate sweep circuit and wobulator for all oscillographic wave analysis. Separate shielding of coil assembly, attenuator and R. F. circuits with overall shield of lead coated steel. Automatic shorting of all coils not in use. Attenuation in approximate microvolt calibration by means of five step, ladder attenuator. Range from 1 microvolt to 1/2 volt.



Feedback through power line is automatically eliminated—Supply is double fused—instantly replaceable fuses. Quality construction throughout, exceptionally attractive in appearance. Size: 8"x11 1/4"x5". Weight: 11 1/2 lbs. **\$22.95**

DEALER NET PRICE

Sensitive Pocket Multitester—Model 413

The only pocket size instrument that has sensitivity, ranges and features of the large expensive testers, yet it is priced remarkably low. Quality and accuracy of component parts are identical to those in the larger and expensive equipment.

3" square D'Arsonval meter has a sensitivity of 400 microamperes or 2500 ohms per volt. Fine Alnico magnet as is used only in ultra sensitive, high cost meters. Handy size, greater sensitivity, accuracy and wider ranges make it far more desirable than other pocket testers. Ohmmeter 0/500/100,000/1,000,000 ohms. Lom Ohm scale has each of first ten divisions reading 1/10 ohm. All ranges entirely complete with self-contained battery. ● Microammeter 0-400. ● Milliammeter 0-10-100-1000. ● Ammeter 0-10. ● D.C. voltmeter 0-10-50-250-1000-5000. ● A.C. voltmeter 0-10-250-1000-5000 ● High accuracy maintained through maximum error tolerance of 2% for meter, shunts, multipliers, etc. ● Attractive appearance in natural finish wood case. ● Size 3 1/4"x6"x2 3/8". ● Weight 25 ounces.



\$12.90

DEALER NET PRICE

Model 413P—Identical to Model 413 except case is hand rubbed, piano finish, solid walnut with hinged cover and latch and compartment with probes. **DEALER NET PRICE \$14.95**

TUBE and SET TESTER COMBINATION

Model 803

An all time value record is established by this portable service shop consisting of a set tester and a complete tube tester with mechanical roll chart built in. An extra heavy wood case with fine Spanish drill grey covering, bakelite handle—removable cover—compartment for tools, etc.



Size 14 1/4 x 13 x 6", weight 12 1/2 lbs. ● DeLuxe line cord and plug—double fused line. ● FUSED meter—protected against burn out by instrument fuse. ● Tests all latest tubes, miniature and bantam Jr., all filament voltages. Famous Dynoptimum test circuit. ● Exclusive Radio City method of AC measurements eliminates large errors that exist with testers using copper oxide rectifiers, caused by variations in frequency, temperature and wave form. ● Medium Ohmmeter Range is battery operated (self contained). High range powered by self contained plug in line supply. Low ohm range is back up—low drain type. ● Includes decibel measurements and condenser leakage tests. Power supply self contained. Complete ready to use with test leads. ● Built in Rolindex roller type tube chart assures the finest and smoothest operative mechanical tube test index. ● Jewelled Pilot light indicator for "ON" connection. ● 1. Tube Tester tests all new and old tubes, provides for heater or filament voltages up to full line voltage. Tests all ballast tubes. 2. Tests all standard R.M.A. plate voltages and loads. 3. Hot interelement short and leakage tests for individual elements. 4. Individual section tests of multi-purpose tubes, etc. 5. Line voltage regulation 103 to 135 volts meter indication. 6. Noise test for tubes which otherwise test good. ● MULTITESTER PROVIDES: 7. DC voltmeter 0/10/50/500/1000 at 1000 ohms per volt. 8. Four Range AC voltmeter 0 10/50/500/1000. 9. DC milliammeter 0/1/10/100/1000 DC Ammeter 0/10. 10. Ohmmeter 0/500/5000/1,000,000/10,000,000. Low ohm center scale 5 ohms and each of first ten divisions 0.1 ohm. 11. D.B. Meter—8—15/15 to 29/29 to 49/32 to 55 decibels. 12. Four Range Output Meter—same as AC volts.

Model 803 (115 volt)—**DEALER NET PRICE \$32.95**

Model 803A

This combination consists of two complete individual instruments—the Model 803 combined tube and set tester with the Model 506 plug in analyzer unit, built into the cover. The overall size is exactly the same as for the 803. All measurements can be made at the socket terminals without removing the chassis of the receiver or unit under test. It eliminates the necessity for getting into the set or chassis with test prods. Moreover, measurements can be made with all tubes and circuits in operation. Complete with latch lock adapters, rectifier tube, batteries test prods, etc. Dimensions: 14 1/4 x 13 x 6". Weight, 12 1/4 pounds.



Model 803A (115 volt)—**DEALER NET PRICE \$43.50**

Multitester—Model 412

This instrument is similar in appearance and size to Model 413 D.C. but the A.C. voltage ranges are omitted. Otherwise every feature and specification is identical to the A.C.-D.C. model. A handy, pocket size precision test instrument for radio service men, dealers, amateurs, electricians and engineers at a price convenient for everyone. Weight: 22 ounces.



Model 412—Complete with batteries ready to use

\$9.95

DEALER NET PRICE

MODEL 412P—Same as above but with solid walnut, piano finish hinged cover case having compartment and test prods. **\$11.95**



RADIO CITY PRODUCTS CO.

Dependable TESTING EQUIPMENT



A.C.-D.C. Multitester—Model 446

A unique general test instrument where appearance, performance, quality of materials and construction put it in a class with other makes of testers selling for double the price.

1. Bakelite case, 3 inch square D'Arsonval Meter, accurate within 2 per cent.
2. D.C. voltmeter 0/5/50/250/500/2500.
3. D.C. milliammeter 0/1/10/100/1000.
4. D.C. ammeter 0/10.
5. A.C. voltmeter 0/10/100/500/1000.
6. Ohmmeter 0/500/100,000/1 Meg.
7. Low range is low drain type reading at 0.1 ohm. Center of scale only 10 ohms. Ideal for measuring voice coils, locating shorted turns, poor contacts.
8. Decibel ranges —8 to +15/12 to 35/26 to 49/32 to 55.
9. Four output ranges—same as A.C. volts.
10. Here is the equivalent of 25 different instruments in a single case complete with batteries.
11. Convenient selector switch operation, attractive panel case and multi-colored dial.
12. Meter sensitivity 1 Milliamper or 1000 ohms per volt.



Model 446

MODEL 446—Size: 3" x 8 1/2" x 5". Weight: 2 lbs. \$9.95
DEALER NET PRICE
MODEL 446P—Walnut finish portable hinged cover case with handle and compartment for test prods, plier, screw driver, etc. High quality set of test leads with prods are included. \$11.50
DEALER NET PRICE.....\$11.50

Speed Meter—Model 433

An unusually handy instrument that provides the speediest DC testing with outstanding economy. The 3 inch square bakelite D'Arsonval meter gives long easy reading scales. Meter movement is 0.1 milliamper. Sensitivity 1000 ohms per volt.



Model 433P

Two Range ohmmeter 0-500 and 0-500,000 ohms. Self contained batteries. Automatic circuit balancing switch eliminates necessity of test leads and fussing to balance ohmmeter circuit. Low range is back up type low drain circuit. ● Volts 0.5/50/500/100/1000. ● Milliampers 0-1. ● Net, attractive etched panel with frosted silver finish background, hardwood case. Size 6" x 13" x 2 1/2". Weight 21 oz.
MODEL 433—Open face—DEALER NET PRICE \$6.45
MODEL 433P—In hinged cover solid walnut case — hand rubbed. DEALER NET PRICE \$7.95

Trouble Shooter—Model 432

The lowest price "legitimate" tester on the market, yet quality has not been sacrificed. Pocket size 5 1/4" x 3" x 2". Weight 24 ounces. Multi scale D'Arsonval meter 0.1 mil, accurate within 2%. Has individual low ohm scale as on costlier instruments.



D.C. Volts 0.5/0.50/0.500/0.1000 at 1000 ohm per volt sensitivity. D.C. Milliampers 0.1/0.10. Ohms 0.500/0.50,000/0.500,000. Self contained batteries for all ohmmeter ranges. Test probes not required for balancing ohmmeter ranges. Low range has each of first 5 divisions reading as low as 0.2 ohm.
DEALER NET PRICE \$5.95
MODEL 432P—Has Solid Walnut portable hinged cover case—hand rubbed. DEALER NET PRICE \$7.45

ROLINDEX

A handy, new, unique independent tube chart unit to be used with instruments that do not have roller type charts built-in. Rolindex is the one answer to many inconveniences caused by lost or soiled tube charts—delays in locating tubes on charts, etc.



Finely designed with high quality construction for smooth operation. It represents the very best in mechanical roller type charts. ● Charts may be easily removed and replaced. New charts will be available when a number of new tubes have appeared. Prices will not exceed 75c. ● Available in complete up to date listings for use with Model 307, 308, 309, 800, 801 and 801 M instruments. Specify type of tester with which it is to be used. ● Housed in neat hard wood case size 11" x 3 1/2" x 3". Weight: 2 lbs.
MODEL 101—DEALER NET PRICE \$4.95
MODEL 102 (Illuminated)—DEALER NET PRICE \$6.50

NEW! DYNOPTIMUM TEST

Dependable Tube Tester—Model 309S

These advantages put it far ahead of more expensive testers:—

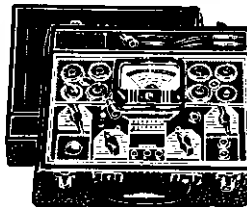
- Tests all old and new types of tubes, cold cathode rectifiers, all tubes with heaters up to full line voltage—pilot lights, Xmas tree lights, etc. ● Individual noise test. ● Tests all ballast tubes. Separate ballast tube chart included. ● Tests are under R.M.A. specified voltages and loads as approved by all tube manufacturers. ● Hot interelement short and leakage test between ALL INDIVIDUAL ELEMENTS. Hot cathode leakage test. High sensitivity neon indication. ● Individual tests of each section of full wave rectifiers, duo diodes and all multi-purpose tubes. ● Accurate calibration checked against our laboratory standard mutual conductance instrument. ● Accurate line voltage indication directly on meter with smooth power control for variation of line voltage. ● Tests Miniature and Bantam Jr. tubes. Has spare socket for future new development. ● Supplied with celluloid covered tube charts, deluxe line cord and plug and double fused line. ● Three inch square D'Arsonval meter, 2% accuracy. Direct reading "Good-Bad" multi colored scale. ● Simplest operation. Fewer controls than any other approved circuit tube tester. ● Excellent quality throughout, highly attractive appearance. You will be proud to own model 309S compared to other testers selling up to \$30.00. SIZE: 9" x 12" x 5". WEIGHT: 8 1/4 lbs. net.



MODEL 309SC—Counter Type—DEALER NET PRICE..... \$16.95
MODEL 309SP—Combination Portable and Counter Type. Case has compartment for tubes and tools. Molded Bakelite carrying handle..... \$18.95
MODEL 309C—Similar to Model 309SC except that regular approved cord and plug is supplied instead of deluxe type and the instrument is not fused. The tube charts are not protected by celluloid covers..... \$15.95
DEALER NET PRICE.....\$15.95
MODEL 309P—Similar to Model 309C but in combination portable counter type case. The case does not have a compartment for tubes and tools as does the 309SP..... \$16.95
DEALER NET PRICE.....\$16.95

Combination Tube and Set Tester Model 802

Ingenuous instrument has meter fuse protection besides double fused line. Polarity reversing switch. Provides for audible test of noisy tubes. All the fine tube testing features of Model 309SP with advantages of set testing. Priced extraordinarily low for such a fine instrument. Cable switchboard forms, supply line double fused. Self contained power supply. Long multiple scales in colors, clear readings on 4 1/2" square D'Arsonval meter; accurate within 2%. Size 12" x 12 1/2" x 6". Weight: 9 1/2 pounds. Unique method of A.C. voltage measurements gives linear scale far superior to copper oxide rectifier. Eliminates frequency, wave form and temperature errors. Attractive, sturdy case with slip hinge cover. Beautiful etched panel.



● Tests all new and old tubes. ● Tests all ballast tubes. ● Tests are made at R.M.A. specified voltages and loads. ● Hot interelement short and leakage tests on each individual element. ● Individual tests of each section of multi purpose tubes, full wave rectifiers, duo diodes, etc. ● Line voltage regulation with direct meter indication. ● D.C. Voltmeter: 0-10/0.50/0.500/0.1000 at 1,000 ohms per volt. ● A.C. Voltmeter: 0-10/0.50/0.500/0.1000. ● D.C. Milliammeter: 0-1/0.10/0.100/0.1000. ● D.C. Ammeter: 0-10. ● Ohmmeter: 0-500/0.5000/0.1 Meg/0.10 Meg. ● Low ohm range has center of scale at 5 ohms and each of the first ten divisions read 0.1 ohm. ● D.B. Meter: —8 to +15/15-29/29-49/32-55 decibels. ● Condenser Leakage Measurements. ● Output meter—same as A.C. Voltmeter.
MODEL 802—DEALER NET PRICE..... \$27.95
Combination tube tester and plug in Set Analyzer Model 802A—combines Models 802 and 506 in the same case. \$38.50
DEALER NET PRICE.....\$38.50

Universal Trouble Tracer—Model 456

Model 456 is the "tops" in a fine miniature A.C.-D.C. voltmeter, ohmmeter, milliammeter and d.b. meter. Most attractive appearance, finely finished hard wood case, and is priced so economically that there is no excuse for anyone being without an A.C.-D.C. tester if he needs one.



D'Arsonval meter — accuracy guaranteed within 2%. Special ohmmeter shorting switch — no fussing around with leads or jumpers. Movement 1 milliamper or 1000 ohms per volt. Self contained batteries.
 ● D.C. volts 0/5/50/500/1000. ● A.C. volts 0/5/50/500/1000. ● D.C. Milliamp 0/1/10. ● Ohms 0/5000/500,000. ● D.B. —12 to +8/8-28/28-48/34-54. ● Size 6"x3"x2 1/2" ● Weight 21 ozs.
DEALER NET PRICE \$7.95
Model 456P same as Model 456 except in portable hinged cover case of solid walnut hand rubbed. \$9.65
DEALER NET PRICE.....\$9.65



RADIO CITY PRODUCTS CO.

Dependable

TESTING EQUIPMENT



TUBE TESTERS—Model 310

Model 310 testers are ultra modern in circuit design, operation and efficiency. Finest quality rotary selector switches for speediest operation. Heavily silver plated contacts for low loss. Far superior to the cheap slide switch with its imperfect contact.

Famous dynoptimum test circuit gives finest correlative test—made under plate voltages and plate loads as specified by R. M. A.

Tests all tubes including miniature and bantam Jr.

Tests tubes of all filament voltages from 1 volt to full line voltage.

Separate test for noise, hum, intermittents and bad connections.

Spare socket provides for future new tubes having new base arrangement.

Tests separate sections of multi-purpose tubes, full wave rectifiers, etc.

Hot interelement short and leakage test between all individual elements. Hot cathode leakage test. Neon indicators show leakages at high sensitivity.

Continuous variable adjustment for operation at any line voltage from 105 to 135 volts. This method is far better than the cheaper and jumpy method of using only a few transformer taps without a power rheostat.

Line voltage is directly indicated (by independent rectifier circuit) on D'Arsenal meter. This is far more accurate and reliable than the wobbly indication on an A.C. vane meter.

Tests all Ballast tubes, pilot lights, Xmas tree lights, etc.

Accurate calibration checked against laboratory standards.

Newest and finest "Rolindex" brass geared mechanically operated roll type tube test charts. Insures smoothest, positive, speedy operation.

De luxe line cord and plug — double fused line protection.

Jewelled pilot light indicates: "ON" or "OFF".

Free tube setting and information service for one year, also one new additional roller type chart will be supplied free up to Oct. 1, 1941 to all registered owners.

Model 310C for counter use has sloping front, size 11 1/2 x 13 1/2 x 7 1/2 inches.

Model 310P for combination portable-counter use. Slip hinge cover—rich looking sturdy luggage type case—two tone black-grey. Bakelite handle. Has compartment for tubes, tools, etc. Series 3 testers have 3 inch square meters.

Series 4 testers have 4 1/4 inch rectangular meters.

Model 310C series 3—(115 volt) DEALER NET PRICE \$21.95

Model 310C series 4—(115 volt) DEALER NET PRICE \$23.95

Model 310P series 3—(115 volt) DEALER NET PRICE \$23.95

Model 310P series 4—(115 volt) DEALER NET PRICE \$25.95



Model 310C-3



Model 310P-3

TUBE MERCHANDISERS—Model 312

Here is a tube merchandiser which is a real "Sales Promoter" in addition to being a very fine test instrument. The 9 inch Jumbo meter and the largeness of the entire tester make an impressive and highly attractive display for any counter.

Every fine feature of the Model 310 tube tester is incorporated in the 312. This includes the Dynoptimum test circuit — Rolindex tube chart; the finest and latest design of built in roll charts — spare sockets — jewelled pilot light indicator — power rheostat — etc. Every individual advantage of the Model 310 is built into Model 312.

Model 312C—Size 11 x 18 1/2 x 7 1/2 inches; weight 15 lbs.

Normally supplied in vertical type — horizontal type may be had by specifying "Horizontal" (same price).

Model 312 C (115 volts) DEALER NET PRICE \$29.95

Model 312P—Same as above except in combination portable-counter type case with compartment for tubes, tools, etc. Leatherette finish; size 13 x 18 1/2 x 9 inches; weight 16 lbs. (115 volts) DEALER NET PRICE \$32.85



Model 312C

MASTER ANALYST—Model 504

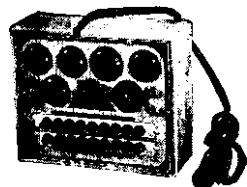
An analyzer unit, more useful, efficient, foolproof, speedier and convenient than any other. Completely push button operated, it combines every advantage of rotary switches and button switches yet eliminates the chief disadvantages that are present in other makes that are either push button or selector switch operated.

Model 504 is a super flexible circuit selector, free point, free reference unit for plug in socket analysis for measurements of voltage, current resistance capacity.

- 1. Two or more buttons may be pushed simultaneously without danger of "shorting".
2. Buttons may be left locked in depressed position.
3. Eliminates necessity for "release" button.
4. Speedier servicing because — no necessity for removing connecting prods — no time lost nor danger in turning through unwanted intermediate positions — no necessity for "meter read" and "reverse" buttons.
5. Measures current and voltage simultaneously.
6. Voltage buttons can automatically reverse meter polarity.
7. Contains new "midget" socket and midget analyzer plug adapter.
8. 10 wire analyzer cable including spare lead.
9. Complete with toggle latch plug, 8 adapters. Terminal numbers etched at sockets and buttons.

Model 504C—Size 9 3/4 x 7 x 3 1/4". Weight 3 lbs. with natural finish wood case. DEALER NET PRICE \$15.45

Model 504—Same as above less case, requires 3" mounting depth. DEALER NET PRICE \$14.45



Model 504C

PLUG IN SET ANALYZER—Model 4156

Combines Model 414P and 506 instruments to provide a very comprehensive, accurate and sensitive instrument for plug in socket analysis in compact form. The case size is exactly the same as for Model 414P. Weight 9 1/2 lbs.

Finely rubbed natural finish maple, slip hinge cover case.

Model 4156—(115 volts) DEALER NET PRICE \$34.95



Model 4156

PUSH BUTTON ANALYZER—Model 4154

Here is an ultra modern combination of instruments, Models 414P and 504 to give the last word in convenience, flexibility, safety and speed for accurate socket analysis.

Natural finish maple case. Size—9 3/4 x 12 1/2 x 8 1/4". Weight 9 1/2 lbs.

Model 4154—(115 volts) DEALER NET PRICE \$39.50



Model 4154



RADIO CITY PRODUCT CO.

Dependable

TESTING EQUIPMENT



**UNIVERSAL DE LUXE MULTITESTER
Model 414**



Model 414P

Original advanced design gives the series of Model 414 Multitesters, advantages, that far outclass other multi-range, multi-purpose meters. METER IS FUSED and supply line is double fused. The R.C.P. system of A.C. measurements eliminates troublesome inaccurate copper oxide rectifier. Rectifier is more rugged, yet more sensitive, simpler to replace and more economical. It is not subject to the frequency, wave form and temperature errors that are large with the copper oxide rectifier. A.C. scales are practically linear and coincide with D.C. scales, eliminating the additional A.C. scale with its crowded scale and confusion.

Sensitivity—2000 ohms per volt—Accurate within 2%.
Direct reading CAPACITY measurements in 5 individual ranges from 0.0001 to 300.00 microfarads. Easy reading wide spread scales. Ohmmeter has self contained power supply—ranges below 1 megohm have self contained battery; Megohm ranges are operated from A.C. line.
Ultra sensitive low ohm range with center of scale only 2 ohms. Each of first ten full size divisions read 0.05 ohm—excellent for detecting shorted turns, contact resistance, voice coils, etc.
Inductance measurements available from curve chart.
High voltage and High current Measurements—5000 volts A.C. and D.C. and 25 amperes D.C.

D.C. volts 0/5/50/250/2500/5000
A.C. volts 0/10/100/500/1000/5000
D.C. mils 0/10/50/250/1000
D.C. amp 0/1/5/25
Capacity Mfd. 0/0.03/3/3/30/300
Low Ohms 0-100
Ohms 0-15,000/150,000
Megohms 0-1.5/15
Inductance .25-1000 millihenries — .25-100/1000/10,000 henries.

Model 414—Open face bench type with 4½" meter, hard wood case.
9¼" x 9¼" x 5¼". Wt. 6 lbs. (115 volts)
DEALER NET PRICE **\$21.95**

Model 414P—Combination portable bench type—handsome maple case hand rubbed natural finish — Cover is deep enough to mount Model 506 into it.



Model 414—Series V7

9¾" x 12½" x 6". Wt. 7 lbs. (115 volts)
DEALER NET PRICE **\$24.50**

Model 414 Series V7—Large 7¼" bakelite square meter—jewel indicating light—front panel screw cap holder for immediate replacement of METER fuse. Black crackle finish steel case. 10½" x 19" x 5¼". Wt. 14 lbs. (115 volts)
DEALER NET PRICE **\$29.95**

Model 414 Series V9—Same as V 7 except that meter is 9" round type. (115 volts)
DEALER NET PRICE **\$32.95**

Model 414 Series B7—Is similar to VP7 except that panel is arranged horizontally. The 414 unit (less meter) is housed in an open face case and may be instantly removed from the panel for convenience while working some distance away. (115 volts)
DEALER NET PRICE **\$29.95**

Model 414 Series B9—Identical to B7 except that meter is 9 inch round type. (115 volts)
DEALER NET PRICE **\$32.95**

**SALES PROMOTER TUBE TESTER
Series D**



Model 308—Series D (Horizontal)

The famous Model 308 Dynoptimum circuit has been extended to these large impressive designs using the 9 inch Jumbo Meters. These instruments are fully up to date and embody all features and advantages that are included in the smaller Model 308 testers described on page 3. There are extra features such as spare sockets for future developments in both the new miniature tubes as well as the large base tubes. Celluloid covered tube charts are supplied — prevents loss and soiling. Jeweled pilot light indicator for tester being "ON". Excellently constructed, highly attractive.

Size 11 x 18½ x 7½ inches. Weight 14 lbs.
Counter Model 308 Series D (Vertical)—(115 volts) **\$25.95**
DEALER NET PRICE
Supplied in horizontal style at same prices.



Model 308—Series D (Vertical)

Model 308DB Bench Type has testing unit in an independent case — permits quick removal from main housing for testing at a considerable distance from meter. Includes a deluxe cord and plug and double fused line.

Bench Type Model 308DB — (115 volts)

DEALER NET PRICE **\$27.95**

Combination Counter Portable Model 308P Series D. Size 13 x 18½ x 9 inches. Weight 15 lbs. (115 volts)

DEALER NET PRICE **\$28.85**

ANALYZER UNIT—Model 506



Model 506

An improved multiple selector circuit system which when used with any suitable multi-meter makes a comprehensive free point, free reference system, set tester. Provides for metering at all socket terminals for current, voltage, resistance and capacity. Permits tube testing from radio receiver chassis. Socket terminal numbers are clearly etched into the panel, standard R.M.A. numbering. Future requirements are provided for by 10 wire cable including a spare and also a spare terminal at the panel. Can easily be mounted in the cover of any instrument — total depth required including below and above panel 1½". Panel dimensions 5½ x 7½ inches. Complete with latest design toggle latch, bakelite plug and 7 latch lock adapters. New miniature socket in panel and new miniature adapter for cable plug are provided.

Model 506—(No Case)
DEALER NET PRICE **\$10.55**
Model 506C—Same as above in 3 inch deep case.
DEALER NET PRICE **\$11.55**

LITTELFUSE

"Quicker than a Short Circuit"

INSTRUMENT *high speed* LITTELFUSES

Designed especially for the protection of delicate test equipment, galvanometers, microammeters, milliammeters, voltmeters, etc.
Glass enclosed; 1" x 3/4" dia. accurately rated, high speed action, short time lag. Voltage rating up to 250 volts AC or DC. For higher voltages use fuses in series.



(\$100 protection guaranty against meter burnouts.)

APPLICATIONS

Cat. No.	Amperes Current Rating	Max. Load M.A.	Aver. Resist. 5 M.A. Load	Volt-Meter Ohms Per Volt	All Magnetic Movements	Thermo-Couple Types	Price		
							List	Net	
1000	1/200	5	500	over 1000	Galvanometer	Up to 0-5	\$0.30	\$0.18	
1001	1/100	10	110	1000	Up to 0-10	0-5 to 0-10	.20	.12	
1002	1/32	25	20	500-1000	0-1 to 0-10	0-10 to 0-25	.20	.12	
1003	1/16	60	5.0	100-500	0-10 to 0-25	0-25 to 0-60	.20	.12	
1004	1/8	100	3.0	20-100	0-25 to 0-75	0-75 to 0-115	.15	.09	
1004L	1/8	100	1.5		0-25 to 0-75	0-60 to 0-115	.20	.12	
1005	1/4	200	6.2	10-20	0-75 to 0-150	0-115 to 0-200	.15	.09	
1006	3/8	300	3.0	5-10	0-150 to 0-250	0-200 to 0-300	.15	.09	
1007	1/2	400	2.5	3-5	0-250 to 0-350	0-300 to 0-400	.15	.09	
1007A	3/4	600	1.0		0-350 to 0-500	0-400 to 0-600	.15	.09	
1008	1	1000	.24		0-500 to 0-750	0-600 to 0-1000	.10	.06	
1008A	1 1/2	1500	.18		0-750 to 0-1000	0-1000 to 0-1500	.10	.06	
1009	2	2000	.14		0-1000 to 0-1500	0-1500 to 0-2000	.10	.06	
Spec.	3 to 15	Instrument Littelfuses up to 15 Amps. furnished on Request						.15	.09

VIDEO AND 4AG VACUUM LITTELFUSES

Glass enclosed vacuum type fuses designed especially for high voltage low current circuits.



The standard Video Littelfuse Series are for service where voltages up to 15,000 AC peaks or 5,000 DC are encountered. Will protect television, cathode ray equipment, X-ray machines, etc., against equipment damage due to insulation failure, loss of bias, etc.—and against lethal shock to persons.

The 4AG Series will protect the lower voltage types of equipment mentioned above (3000 volts AC and 1000 DC). They are especially well designed to protect delicate thermo-couples of approximately their own rating because of their low lag characteristics.

Video Littelfuses 1 3/4" x 3/8" dia.

Cat. No.	Rating Amps.	Blow Point M.A.	Res. Ohms Cold
1311	1/1000	1.5	520
1312	1/500	3.0	240
1313	1/200	7.5	50
1314	1/100	15.0	35
1315	1/32	45.0	33
1316	1/16	90.0	30

4AG Vacuum Littelfuses 1 1/4" x 3/32" dia.

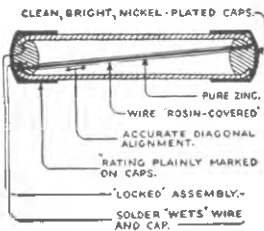
Cat. No.	Rating Amps.	Blow Point M.A.	Res. Ohms Cold
1331	1/1000	1.5	250
1332	1/500	3.0	100
1333	1/200	7.5	30
1334	1/100	15.0	20
1335	1/32	45.0	16
1336	1/16	90.0	13
1337	1/8	160.0	5

List Price, each \$0.50

Net Price, each \$0.30

3AG RADIO AMPLIFIER FUSES

Glass enclosed 3AG type Radio fuses 1 1/4" x 3/8" dia. 250 volt rating, listed and approved by Underwriters Laboratories. These fuses are second to none on the market—why gamble with so called "cheap fuses"? Designed to operate indefinitely on 10% overload, and blow on 150% of rating. Operate accurately in any position. "Locked caps", no cement to loosen. Bright, clear caps.



SPECIAL LITTELFUSES AND FUSE MOUNTINGS AVAILABLE ON APPLICATION

Cat. No.	Amperes Current Rating	Max. Voltage	Price, Each	
			List	Net
1040	1	250	\$0.07	\$0.04
1041	1 1/2	250	.07	.04
1042	2	250	.07	.04
1043	3	250	.07	.04
1044	4	500	.15	.09
1045	5	500	.15	.09
1046	6	500	.15	.09
1047	8 3/4	500	.15	.09
1080	5	25	.05	.03
1081	10	25	.05	.03
1082	15	25	.05	.03
1083	20	25	.05	.03

TATTLELITE TESTER "tells the tale"

Pocket Type Neon Tester

For indicating voltage from 90 volt DC and 60 volt AC to 500 volts AC or DC. Has built in 200,000 ohm resistor. Will not blow up like ordinary test lamp. Moulded tenite body—short proof leads and tips. Uses 122-1 lamp.

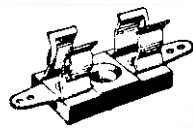
Tests for live lines, polarity and whether AC or DC or R.F., blown fuses, defective spark plugs and cable, etc. Also indicates approximate voltage (110, 220, 440, etc.), grounded lines, open circuit, or shorts. Full directions.

Packaged 20 on a display card or in individual cellophane boxes with pictorial directions. Standard Package 20, Weight 2 lbs. Cat. No. 5076 List Price \$1.00 each Net Price \$0.60 each



MOUNTINGS FOR LITTELFUSES

Single Pole Mounting



Black moulded bakelite base, 1 3/8" x 5/8" x 3/16" timed, Shakeproof Terminals, and extra quality phosphor bronze metal lead wire clips, No. 8 F.H.I. M.S. mounting hole, 1 7/8" overall length including soldering terminals, 5/8" high.
Cat. No. 1010 List 15c Net 9c each

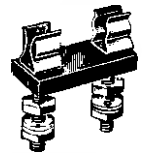
Meter Back Mounting



Mounts directly on meter binding post. Will not touch other posts on any standard meter. Linen Bakelite base 1" x 1 1/8" x 1/16". Length over screw terminals 1 1/2".
Cat. No. 1059 List 20c Net 12c each

Panel Type Mounting

Used for concealed wiring, black bakelite base 1 3/16" x 1 1/2" x 3/16". Height 5/8". Studs 1" long, threaded 6-32 full length. Supplied with four nuts and washers. Cat. No. 1050 List 20c Net 12c each



3AG FUSE MOUNTINGS

Metal Shielded 3 AG Type Mounting, meets Underwriters requirements. Needs tool for removing casing.



Cadmium plated cover. Bakelite base requires 1 5/8" x 5/8" knockout hole. Overall size 2 1/2" x 7/8" x 3/4" height above panel. Equipped with two 6-32 x 5/16" mounting studs—2 3/8" centers.
Cat. No. 1126 List 20c Net 12c each
Cat. No. 1227—Same as No. 1126 but double pole. Size 2 1/2" x 1 1/4" x 3/4" high.
List 40c Net 24c each

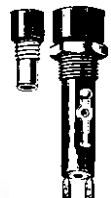
3AG ECONOMY MOUNTING

1 1/2" long by 9/16" wide by 9/16" high. Bakelite mounting strip with 1 3/2" fibre insulator on bottom covering all metal parts. Permits mounting on metal panels. Mounting hole for No. 6 screw. All parts cadmium plated, absolutely corrosion proof.
Cat. No. 1128 List 10c Net 6c each



Extractor Fuse Post

Beautiful black moulded bakelite panel mounting. Meets Underwriters specifications. Designed to hold 3 AG type fuses. Entirely shockproof. Takes panels up to 5 1/6" thick, 1/2" dia. mig. hole. Length 1 3/4" from front panel, 2 1/4" overall.
Cat. No. 1075 List 40c Net 24c each



3AG SINGLE POLE OPEN TYPE

Bakelite base 1 5/8" x 1 1/2" x 3/16". Overall 2 1/4". Live parts space insulated. Shake-proof timed soldering terminals. Mounting hole for No. 6 R.H.M.S.
Cat. No. 1060 List 15c Net 9c each



Fuse Retainer

Holds 3 AG type fuses. Excellent for test leads or battery cable for auto sets. Cadmium plated steel shell. Bayonet lock end takes cable up to 3/16" dia. Size 2 1/2" x 3/8" dia.
Cat. No. 1070 List 10c Net 6c each



LITTELFUSE "Quicker than a Short Circuit"

AIRCRAFT LITTELFUSES—ANTI-VIBRATION TYPE

These Fuses Are Designed Especially for Aircraft Service. High Mechanical Strength, Resistance to Fatigue, and Long Vibration Life, Are Their Outstanding Characteristics



4 AG Aircraft fuse showing re-inforced twisted element (Note clear label)



Bakelite enclosed 4 AB Fuse

CONSTRUCTION—Glass enclosed—The 4 AG and 5 AG sizes are supplied for Aircraft service because of their strength and greater capacity than 3 AG types. Assembled by the Littelfuse positive "locked" method (no cements) the caps are guaranteed not to loosen. High Visibility transparent marking label for amperage. Elements twisted 90% (see illustration), another Littelfuse feature, raises the vibration period far above that ever encountered in service.

BAKELITE ENCLOSED—4 AB Fuses are recommended where severe overloads might shatter glass fuses.

CURRENT RATING—Rated to National Electric Code specifications to carry 10% overload indefinitely and to blow on 50% overload.

VOLTAGE RATING—Voltage rating given in table below is what the fuses will break without arcing over or bursting under short circuit conditions.

VIBRATION LIFE—The vibration life test factor given for aircraft Littelfuses represent the minimum hours these fuses endure our magnetic vibrator operating at 120 cycles per second while carrying the rated current. Our acceleration test is approximately 10 times the worst conditions encountered in the field.

4 AG — 4 AB — 5 AG Fuses + Intermediate amperages furnished for 20% additional price.			4 AG Fuses 1 1/4" x 3/8" Dia. Unit weight — 3.5 Gms.			4 AB Fuses 1 1/4" x 3/8" Dia. Unit weight — 3.75 Gms.			5 AG Fuses 1 1/2" x 1 1/8" Dia. Unit weight — 8.5 Gms.		
Vibration Factor	Ampere Rating	Volts	Cat. No.	Price Each List	Net	Cat. No.	Price Each List	Net	Cat. No.	Price Each List	Net
100+	1	250	1091	\$0.15	\$0.09	1091B	\$0.25	\$0.15	1160	\$0.15	\$0.09
100+	2	250	1092	.15	.09	1092B	.25	.15	1161	.15	.09
100+	3	250	1093	.15	.09	1093B	.25	.15	1162	.15	.09
500+	5	*25	1094	.15	.09	1094B	.25	.15	1163	.20	.12
500+	10	*25	1095	.15	.09	1095B	.25	.15	1164	.20	.12
500+	15	*25	1096	.15	.09	1096B	.25	.15	1165	.20	.12
500+	20	25	1097	.15	.09	1097B	.25	.15	1166	.20	.12
500+	25	25	1098	.15	.09	1098B	.25	.15	1167	.20	.12
500+	30	25	1099	.15	.09	1099B	.25	.15	1167	.20	.12
500+	40	25	1100	.20	.12	1100B	.30	.18	1168	.20	.12
500+	50	25							1169	.30	.18
500+	60	25							1222	.30	.18

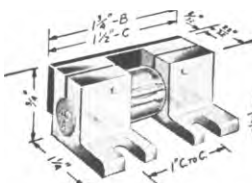
* 4 AB — Bakelite enclosed fuses have been found satisfactory for breaking 125 volts on 25 KVA power supplies on these sizes.

HEAVY DUTY AIRCRAFT LITTELFUSES

HI-AMP TYPE—A small, light, renewable, easily inspected fuse for aircraft main line service. Fuse body is made of a transparent polystyrene resin for visual inspection. Renewals are made by releasing the screw through the split end caps. Conservatively rated at 25 volts for battery circuits, but may be used for service up to 125 volts on power supplies below 50 KVA. Uses No. 1235 Fuse Links.

Standard length on these fuses is 1 3/4". Can also be furnished in 1 1/2" overall length, for this size specify type C in ratings up to 100 A.

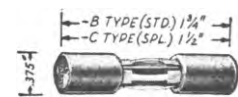
Vibration Factor 500+ All Ratings
Average unit weight — 45 Gms.



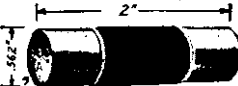
Hi-Amp Aircraft Littelfuse

Cat. No.	Weight 8 lbs. Rating Amps.	Price Each List	Net
1117	40	\$1.25	\$0.75
1118	50	1.25	.75
1119	60	1.25	.75
1120	70	1.25	.75
1121	75	1.25	.75
1122	80	1.25	.75
1123	100	1.25	.75
1324	125	1.50	.90
1325	150	1.50	.90

RENEWABLE HI-AMP FUSE LINKS—Furnished in two sizes—1 3/4" x 3/8" diameter furnished for amperages from 40 to 150—used in standard Hi-Amp fuses as illustrated, and with number 1245 fuse mounting. Renewal links for amperages from 150 amperes to 300 amperes 2" x 3/8" diameter for use in mounting number 1246.



Cat. No. 1235—40 to 150 amps.



Cat. No. 1236—Used in No. 1246 Mtg. 150 to 300 amps.

Cat. No.	Rating Amps.	Weight Gms.	Price Each List	Net
	40 to 80		\$0.50	\$0.30
1235	100 to 150	16 1/2	.60	.36
1236	150 to 300	50 1/2	.90	.54

Standard Amps.—No. 1235—40, 50, 60, 70, 75, 80, 100, 125 and 150.
Standard Amps.—No. 1236—150, 175, 200, 225, 250, 275 and 300.
In ordering indicate catalogue number followed by amperages thus: 1235 —40, or 1236 — 150.

AIRCRAFT FUSE MOUNTINGS



1212A 1212B
Cat. No. Description



1245—1246
Weight Gms. Price Each List Net

1212A	Fuse extractor posts for 4 AG fuses—mounting hole 5/8" clearance—length under panel 2 3/4"—with finger operated knob	24 1/2	\$.75	\$.45
1212B	Same as 1212A, but with larger knob	25	.85	.51
1245	Fuse extractor post for Hi-Amp elements No. 1235—mounting hole diameter 7/8" clearance—length under panel including terminal 3 3/8". Finger operated Extractor knob. Has lock-nuts and insulating washer	111	3.00	1.20
1246	Fuse extractor post for Hi-Amp elements No. 1236—mounting hole 1 1/8" dia. Under panel length, including terminal bolt 3 3/4"	230	2.50	1.50

BERYLLIUM COPPER FUSE CLIPS



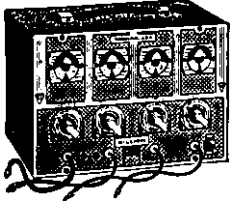
Triple the grip strength of best Phosphor Bronze—Fatigue resisting, heat resistant up to 200° C.—Cadmium plating standard.
Standard Package 100

Cat. No.	Use for	Wt. Gms.	Ht.	Wth.	Fuse Hole Dia.	Price per 100 List	Net
1216	1/4" dia. Fuses	1	1 1/8"	1 1/8"	1/4"	\$.138	\$5.00 \$3.00
1217	4 AG and 4 AB	1 1/2	1 1/8"	1 1/8"	3/8"	.165	12.00 7.20
1218	H. V. Aircraft & 5 AG Fuses	3 1/2	3/4"	1 1/8"	3/8"	.196	16.00 9.60
1219	N.E.C. Fuses & No. 1243	5	1 1/2"	5/8"	3/8"	.203	21.00 12.60
1221	1/2" dia. Fuses	10 1/2	1 1/8"	7/8"	1/2"	.265	26.00 15.60

HIGH VOLTAGE AIRCRAFT FUSES

Catalog information on Aircraft Fuses 1000 to 3000 volts, and mountings, will be furnished on request.

NEW MILLION TEST EQUIPMENT



NEW MODEL SY SIGNAL TRACER

This instrument enables you quickly to trace the signal in any receiver from antenna to voice coil. Absence of the signal is immediately detected by the electronic "eyes." A coaxial cable probe permits checks at high frequencies without disturbing circuit under test. The Signalizer is particularly useful in locating trouble in intermittent or "dead" receivers. Two phone jacks permit listening to the signal to detect hum or distortion. Oscillator performance is readily determined. Input impedance of the instrument is 6 megohms.

CHECKS RF-IF-AF-DC VOLTAGES

There are 4 channels available for simultaneous monitoring of the RF, IF, AF, and DC power supply circuits. Each channel has an amplifier stage for adequate sensitivity. Deflection of the "eyes" can be controlled. Three of the channels are for AC input while the fourth is for AC or DC. Cables are 30" long and have alligator clips. The beautifully finished bronze panel has black and white markings. Case is pearl gray and measures 7"x10"x6". With 11 tubes, cables and full instructions. For 115 V., 60 cycles. Shpg. wt. 12 lbs.

MODEL SY—Dealer's Net Cash Price..... **\$37 50**

MODEL DF TUBE AND CONDENSER TESTER

The Model DF tests all tubes including the latest Loctal, "S," Bantam Jr., and "hearing-aid" peanut types. The filament switch covers from 1.4 to 110 volts with spare positions for future tubes. The exact condition of the tube under test is clearly indicated on the English-reading "Good-Bad" scale of the accurate D'Arsonval meter. A neon bulb checks shorts and leakages up to 2 megohms. Tests emission and shorts.

CHECKS CONDENSER LEAKAGE

Complete instructions supplied for testing bypass and electrolytic condensers for shorts and leakage. Also provides for continuity checks. All test circuits are effectively insulated from the power line, and each tester is fused. A separate switch is used for the line voltage adjustments. The Model DF is built to precision standards and features a ruggedness in design and assembly that insures accuracy under hard usage. The attractive case with removable cover measures 9"x9"x5". Has carrying handle and an 8 foot cord and plug. For 105-125 V., 60 cycles. Shpg. wt., 12 lbs.

MODEL DF—Dealer's Net Cash Price..... **\$16 95**



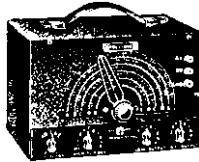
VACUUM TUBE VOLTMETER



Measures values of DC, RF, or AF potential without disturbing the circuit under test. Input impedance never less than 12 million ohms. Nine push-buttons select these 18 ranges: 0-3-15-30-150-300-600-900-1,500 and 3,000 volts A.C. and D.C. Tenth button is used for zero adjustment. Low-loss coaxial cable transfers voltage to divider. Size, 9"x13"x8". In walnut open-faced case. For 115 V., 60 cycles. Wt. 12 lbs.

MODEL XM—Dealer's Net Cash Price..... **\$28 95**

OD SIGNAL GENERATOR



Covers 100 K.C. to 25 M.C. in 6 bands. The direct-reading dial has a scale over 40" in length. Individually trimmed coils assure accuracy and eliminate dead spots. RF output can be modulated 400 cycles. A separate audio output, variable from 0 to 1 volt is available for checking amplifiers. Dual attenuator for coarse and fine adjustment. Line filters and thorough shielding reduce leakage to a minimum. Size, 10"x7"x6". Has attractive bronze panel with ivory knobs. For 110 volts A.C. or D.C. Shpg. wt., 10 lbs.

MODEL OD—Dealer's Net Cash Price..... **\$19 95**

BG DELUXE TUBE TESTER



Designed as a precision instrument of outstanding accuracy for testing all types of receiving tubes. Provides an approved emission test with readings on a "Good-Bad" meter scale. A neon lamp shows all shorts and leaks between any elements up to 2 megohms while tube is hot. Every precaution has been taken to protect instrument from obsolescence. The filament return selection circuit requires only 7 sockets for all present tubes. 3 extra sockets are provided for future tube releases. The filament supply is tapped from 1.4 to 110 volts in 13 steps with 10 spare positions. An extra space switch is also provided. The attractively finished case has metal feet and a removable cover. Size, 10"x12½"x5". Has large, convenient compartment for tools, accessories, etc. The panel is bronze with black and white marking. For 96 to 132 V., 60 cycles. Shpg. wt. 15 lbs.

MODEL BG—Dealer's Net Cash Price..... **\$24 95**

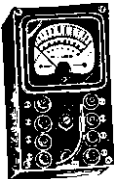
MODEL A POCKET MULTIMETER



The Model A is a 1,000 ohm-per-volt instrument designed to meet the needs of the Serviceman, Amateur or Experimenter. It is extremely compact, of sturdy construction, and features unexcelled accuracy. The following ranges are available through a rotary type switch: 0-6-120-300-1200 V. D.C.; 0-6-300 V. A.C.; 0-1-30-300 M.A. D.C.; 0-2,000-500,000 ohms; and -10 to +12 D.B. The zero adjuster is common for both ohm scales. Space is provided for the self-contained battery. The Model A is supplied complete with battery and built-in test leads. Size, 2"x3¼"x6". Shpg. wt. 2 lbs.

MODEL A—Dealer's Net Cash Price..... **\$8 45**

MODEL 3

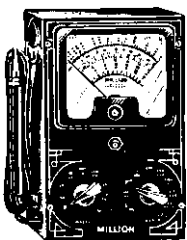


Features a full size 3 inch meter with a large easy to read scale. One zeroadjustment has the same setting for both ohm scales.

- Sensitivity—1,000 Ohms Per Volt.
- Volts D.C.—0-5-50-500-1000.
- M.A. D.C.—0-1.
- Low Ohms—0-1000. High Ohms—0-500,000.

Measures only 2"x3¼"x8". Shipping weight, 2 pounds. MODEL 3—Dealer's Net Cash Price..... **\$5 45**

LABORATORY MULTIMETERS



Three popular models. The style VV with its attractive art panel, large 4 inch meter, built in test leads and separate switch for shunts, gives it first place in the laboratory. Use it for all point to point radio receiver analysis. Ranges available A.C. and D.C. volts, 0-6-120-300-1,200 at 1000 ohms per volt sensitivity. D.C. Milliamperes, 0-1-30-300-600. Ohm meter, 0-1,000 (50 ohms at mid-scale). 0-2½ megohms with self contained batteries. Decibels minus 10 to plus 12. Large 4 inch meter with one milliampere. D'Arsonval movement. Easy to read scales Knife edge pointer. Rotary type range selector switch. Circuit connections brought out to single pair of kinkles heavy duty test leads. Zero ohms adjustment same for both ohms scales. Clearly marked panel. Grey wrinkle finish metal case fitted with rubber feet. Size 8"x5¾"x3½" deep. Shipping weight, 8 pounds.

MODEL VV—1,000 ohms per volt. Complete with handle, rubber feet, batteries and instructions. Dealer's Cash Price..... **\$14 95**

MODEL VOA—5,000 ohms per volt. Same scales as Model VV but reads to 10 Megohms and has 200 microampere meter. Dealer's Cash Price..... **\$17 45**

MODEL OM—Supersensitive meter with 20,000 ohms per volt, 50 microampere and 40 megohm scales. Size ranges and appearance similar to Model VV. Dealer's Cash Price..... **\$24 95**

NEW • MILLION — TEST EQUIPMENT

MODEL GM MULTIMETER



Dealers net cash prices (Less batteries and test leads), net..... **\$19.95**
 Batteries: 2 Burgess 4156; 1 Burgess 432, net \$1.70
 High Voltage Test Leads, net.....\$1.25

A Laboratory Meter

- GIANT 8 5/8" METER
- 1000 OMS PER VOLT
- 0—6—120—300—1200—3000 VOLTS, A.C.
- 0—6—120—300—1200—3000 VOLTS, D.C.
- 500—500,000 OHMS
- 0—5 MEGOHMS
- 0—1—3—30—300—600 MILLIAMPERES
- 0—12 AMPERES
- 0—12 AMPERES
- — 10 + 10 DECIBELS

THE Model GM has been designed to provide the Serviceman or Amateur a large, accurate meter for shop or shack. Special Alnico meter movement provides extra damping and lifelong ruggedness and accuracy.

Five D.C. voltage ranges, 0—6—120—300—1200—3000, cover all requirements. Five A.C. voltage ranges cover 0—6—120—1200—3000.

Decibel scale is provided for riding gain or measurement use. Three ohms scales cover 1 to 500 ohms, 500 to 500,000 ohms and 5,000 to 5 megohms with internal batteries. Zero adjusters and two batteries are provided so that it is not necessary to change zero adjustment when changing scales.

The Model GM is mounted for bench use so that it can be easily read from any angle. It measures 9" wide by 13" high. Shipping weight, 12 lbs.

MODEL SG SIGNAL GENERATOR AC



SEPARATE AUDIO

The audio output is available thru the regular attenuator and multiplier for testing any public address system or the audio portion of a receiver.

The RF output is controlled by a completely resistive attenuator. This attenuator is of the double range type, one control from 0—100 and a multiplier having steps 1, 10, 100, 1000. Units are approximately in microvolts.

RIGID CONSTRUCTION

The model SG is a sturdy, well-built unit made to "take it" under all conditions. Heavy chassis construction plus welded joints make this generator especially desirable from the mechanical standpoint.

TUBES USED

The RF oscillator is a 6V6, the audio generator is a 6J5 rectification by a 5W4.

MODEL SG

Dealers Net Cash Price **\$34.95**
 Shipping wt. 20 lbs.

Complete Attenuation On All Bands

THE model SG is a modern, precisely engineered device capable of producing an artificial signal that can be varied in amplitude from a few microvolts to approximately 100,000 microvolts. Attractive hammered finish panel with ivory knobs.

Individual Coils for HIGHER ACCURACY

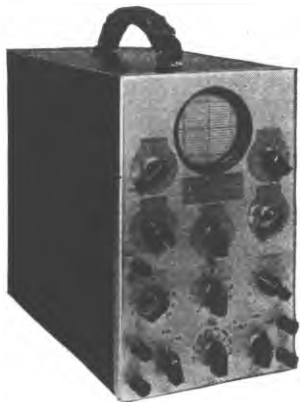
The model SG uses separate coils individually trimmed, eliminating the possibility of "dead-spots" on any range. This feature is usually found only in laboratory-type generators.

The common fault usually found prevalent in the average oscillator, frequency modulation, has been eliminated in the SG. The attenuation system does not load oscillator circuit but reduces the signal at the output to zero on all bands.

Provision is made for external modulation, internal modulation of 40% at 400 cycles, or no modulation.

Attenuation On Megacycle Bands

The Model SG has six bands covering 50 k.c. to 30 megacycles on fundamentals and to 90 megacycles on harmonics. Over 40" of full vision scales make easy reading. The size is 16 1/2 x 9 1/2 x 8 3/4. Operates on 115 volts A.C. 50-60 cycles. Other voltages and frequencies on request. Complete with shielded line cord, special low capacity output cable and complete instructions.



**DU MONT TYPE 164
3" CATHODE-RAY OSCILLOGRAPH**

Because of its compactness, limited weight and modest price, the Type 164 Cathode-Ray Oscilloscope is a favorite with radio servicemen and with engineers who require a small portable field instrument. The limited power consumption of this instrument is also a valuable factor in field work.

A three-inch cathode-ray tube is employed operating at an accelerating potential of 1100 volts, to provide good brilliance with a fine, sharp trace. The single-stage vertical amplifier has a voltage-gain of 70 times, over the frequency range from 15 to 30,000 sinusoidal cycles per second. The horizontal amplifier may be switched to amplify either the sweep circuit or any externally-provided signal, so that Lissajous patterns for frequency determinations may be employed.

Deflection-plate terminals are available at the rear of the instrument without removing the case. Either a Type 2501A3 cathode-ray tube with medium-persistence green screen or a Type 2501C3 cathode-ray tube with short persistence blue screen for photographic applications may be employed. A removable calibrated scale, which is supplied with the instrument, fits over the screen of the cathode-ray tubes.

SPECIFICATIONS

Standard 3-in. Type 2501A3 supplied. Standard tube has green, medium-persistence screen. Short-persistence blue screen for moving-film recording supplied on order at slight cost. Removable calibrated scale fits over tube screen.

Input-Impedance: Vertical: 1,000,000 ohms. Horizontal: 800,000 ohms. Maximum potential 400 d.c. volts.

Frequency-Range: Vertical and Horizontal amp. both uniform within 10% from 15 to 30,000 cycles.

Deflection Sensitivity: Maximum vertical: 0.28 r.m.s. volt/in. Maximum horizontal: 0.40 r.m.s. volt/in. Deflection sensitivity of cathode-ray tube is 24 r.m.s. volt/in.

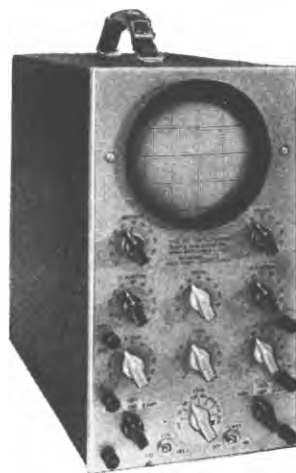
Sweep Circuit: Amplified sweep circuit over continuous range from 15 to 30,000 cycles. Return-trace elimination included. Synchronization from either vertical deflection or external signal.

Power Supply: 115/230 volts, 40-60 cycles a.c. Power consumption 50 watts.

Tubes: All tubes, including the cathode-ray tube are supplied with the instrument.

Physical Specifications: Black wrinkle-finish steel cabinet. Convenient carrying handle. Etched aluminum panel with black lettering. Height, 11 3/4 in.; width, 7 1/2 in.; depth, 13 in. Shipping weight 25 lbs.

Cat. No.	Type No.	Description	Net Price
1064	164	115v. 40-60 cycles with 2501A3 Teletron	\$54.50
1065	164	230v. 40-60 cycles with 2501A3 Teletron	54.50
1066	164	115v. 40-60 cycles with 2501C3 Teletron	57.00
1067	164	230v. 40-60 cycles with 2501C3 Teletron	57.00



**DU MONT TYPE 168
5" CATHODE-RAY OSCILLOGRAPH**

A cathode-ray oscilloscope employing a five-inch Type 2505A5 (green, medium-persistence) or Type 2505C5 (blue, short-persistence) Teletron. The large screen-diameter of this tube makes this an ideal instrument for general laboratory applications and for lectured demonstration work.

The vertical amplifier has a voltage-gain of 450 times which will permit its use directly with a microphone without use of a preamplifier. A convenient switching arrangement is provided to permit connecting the input signal directly to the vertical deflecting amplifier. Internal or external positive synchronization is obtainable by a switch on the front panel.

The Type 168 Cathode-Ray Oscilloscope is housed in an attractive, black, wrinkle-finished steel cabinet which acts as an electrostatic shield. The front panel is chromium-plated brass, and all controls are clearly marked and designated to facilitate operation. A removable, calibrated scale, which fits over the screen of the cathode-ray tube, is supplied with the instrument.

SPECIFICATIONS

Cathode-Ray Tube: Type 2505A5 standard tube supplied. Type 2505C5 for moving-film recording available at slight additional cost.

Input-Impedance: Vertical: 1,000,000 ohms; Horizontal: 800,000 ohms.

Frequency-Response: Uniform within 10% from 15 to 30,000 sinusoidal cycles for both horizontal and vertical amplifiers.

Voltage Gain: Maximum Vertical, 450 times. Horizontal, 50 times. **Deflection Sensitivity:** Maximum Vertical: 0.048 r.m.s. volt/in. **Maximum Horizontal:** 0.40 r.m.s. volt /in. Direct to deflection plates 20.0 r.m.s. volts/in.

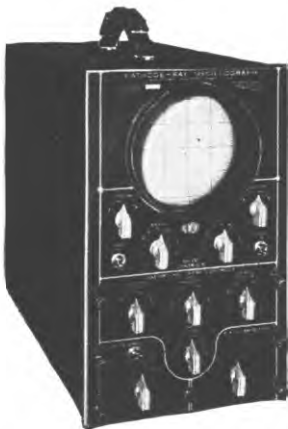
Sweep Circuit: Amplified type over continuously variable range from 15 to 30,000 cycles per second.

Power Supply: Instrument operated directly from 115 /230 v. 40-60 cycle a.c. Consumption 50 watts.

Physical Specifications: Black, wrinkle-finish steel cabinet. Carrying handle. Chrome-plated brass front panel with clear black lettering. Height 19 1/4 in.; width, 8 in.; length, 15 1/4 in. Shpg. wt., 40 lbs.

Cat. No.	Type No.	Description	Net Price
1054	168	115 v. 40-60 cycles with 2505A5 Teletron	\$116.50
1055	168	230 v. 40-60 cycles with 2505A5 Teletron	116.50
1056	168	115 v. 40-60 cycles with 2505C5 Teletron	119.00
1057	168	230 v. 40-60 cycles with 2505C5 Teletron	119.00

**DU MONT TYPE 208
5" CATHODE-RAY OSCILLOGRAPH**



A new five-inch instrument incorporating every possible desirable feature in a standard instrument along with many new improvements which have been incorporated for the first time in any cathode-ray equipment. High accelerating-potential on the new intensifier-type tube insures good brilliance. New, wide-frequency-range amplifiers with symmetric deflection and high sensitivity provide good focus over the entire screen area of the Teletron. The direct-current-coupled deflection amplifier provides for d.c. amplification with a sensitivity of approximately 0.5 d.c. volt per inch deflection.

The cathode-loaded input stage of this instrument gives undistorted frequency-response over the entire frequency-range regardless of input attenuator setting.

Unusual mechanical design of this cathode-ray oscillograph has been incorporated which gives more efficient electrical operation and balances the weight distribution of the instrument so that it is very convenient to carry. Amplifier, sweep-, and position-control circuits offer extended frequency-range and ease of operation which permits the beam to follow immediately all changes in control adjustment. Regulated power supplies make the oscillograph practically independent of line-voltage surges in spite of its high gain.

SPECIFICATIONS

Cathode-Ray Tube: Teletron Type 2511A5 intensifier type, high-vacuum, with four free deflection plates. Standard tube, Type 2511A5, has green medium-persistence screen. Type 2511C5 with blue, short-persistence screen supplied at slight additional cost. Beam switch provided on front panel. Removable calibrated scale supplied.

Input-Impedance: X- and Y-axes: constant 2,000,000 ohm, 15 mmfd. load to signal source. Continuously-variable attenuator free from both frequency and amplitude distortion attenuates signal with no pattern-shift.

Frequency Range: Y-axis—plus or minus 2.5% from 2 to 100,000 sinusoidal cycles; X-axis—plus or minus 10% from 2 to 100,000 sinusoidal cycles.

Voltage Gain: Y-axis—2000; X-axis—43 times.

Deflection Sensitivity: Max. Y-axis 0.010 r.m.s. volt/in. Max. X-axis 0.500 r.m.s. volt/in. Direct to deflection plates—21 and 22 r.m.s. volts/in. Y-axis and X-axis respectively.

Horizontal Switching: Frequency-range control for horizontal sweep-circuit is arranged that its OFF position connects X-axis amplifier input to input terminal provided on front panel.

Sweep Circuit: Recurrent sweep available over continuously-variable range from 2 to 50,000 cycles. Direction of sweep is from left to right.

Power Supply: High-voltage power unit supplies 1150 v. d.c. in series with amplifier power unit to furnish total accelerating potential of 1500 volts. Deflection-plate potentials vary in balanced pairs about ground. Voltage regulation is provided for low-level amplifiers and positioning circuits. Instrument operates directly from 115/230 v. 40-60 cycle a.c. Consumption 90 watts.

Tubes: All tubes including the Teletron are supplied with the instrument. A total of 15 tubes is employed.

Physical Specifications: Black, wrinkle-finished steel cabinet. Convenient carrying handle. Chrome-plated brass front panel with chrome-on-black lettering. Height, 14 1/4 in.; width 8 3/4 in.; depth 19 1/2 in. Shipping weight 67 lbs.

Cat. No.	Type No.	Description	Net Price
1146	208	115 v. 40-60 cycles with 2511A5 Teletron	\$152.50
1147	208	230 v. 40-60 cycles with 2511A5 Teletron	152.50
1148	208	115 v. 40-60 cycles with 2511C5 Teletron	155.00
1149	208	230 v. 40-60 cycles with 2511C5 Teletron	155.00

**DU MONT TYPE 185
ELECTRONIC SWITCH**



The Type 185 Electronic Switch is an extremely valuable supplementary instrument for use with Du Mont or any other make of cathode-ray oscillograph.

The instrument has been designed for simultaneous studies of such signals as input and output signals of amplifiers, of both phases of push-pull amplifiers, and for simultaneous voltage- and current-studies of a.c. circuits. Two units may be operated in cascade to provide three channels for investigations of three- and other poly-phase a.c. circuits.

The Type 185 Electronic Switch consists of two amplifiers, operating in parallel, which are alternately biased to cut off by a multivibrator type square-wave generator whose frequency may be varied over a wide range to suit operating conditions. The outputs of the two amplifiers are fed to a mixing stage. In application one unknown signal is connected to the input of each amplifier and their mixed and switched output is fed from the mixing stage to the input of a standard cathode-ray oscillograph to give the appearance of observing both signals at once. The balance control of the Electronic Switch makes it possible to superimpose both signals for direct comparison or to separate them on the screen of the cathode-ray tube for individual study.

SPECIFICATIONS

Frequency Range: Continuously variable, 6 to 2000 times per second. Essentially uniform response of amplifier from D.C. to 10,000 sinusoidal cycles per second. No phase distortion experienced from low-frequency limit to 25,000 sinusoidal cycles per second.

Voltage Gain: 15 times for identical amplifiers on each axis.

Power Supply: Instrument entirely A.C. operated from 115/230 v. 40-60 cycle supply. Power consumption, 30 watts. Fuse protection, 1 amp.

Tubes and Functions: All tubes supplied with instrument, as follows: 2—Type 41 Blocking Tubes; 2—Type 6C6 Switching Amplifiers; 2—Type 56 Oscillators; 1—Type 80 Rectifier.

Physical Specifications: Black wrinkle-finish steel cabinet. Convenient carrying handle. Chrome-plated brass panel with black-filled etched lettering. Dimensions: Height, 11 1/2 in.; width, 7 1/2 in.; depth 13 in. Net weight 17 lbs.

Cat. No.	Type No.	Description	Net Price
1072	185	115 v. 40-60 cycles	\$64.50
1073	185	230 v. 40-60 cycles	64.50

Du Mont Teletrons, Cathode-Ray Tubes

Type	Screen Dia.	Max. Over-all Length	Color	Persistence	Use	Net Price
2501A3	3"	11 1/2"	Green	Medium	Osc.	\$13.50
2501C3	3"	11 1/2"	Blue	Short	Osc.	15.00
2505A5	5"	16"	Green	Medium	Osc.	35.00
2505C5	5"	16"	Blue	Short	Osc.	37.50
2511A5	5"	17"	Green	Medium	Osc.	30.00
2511B5	5"	17"	Green	Long	Osc.	35.00
2511C5	5"	17"	Blue	Short	Osc.	32.50
2511D5	5"	17"	White	Medium	Telev.	30.00

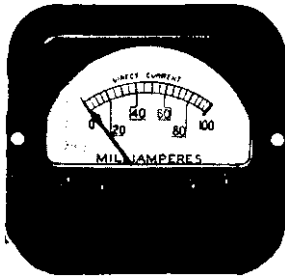
STERLING PANEL METERS

AMMETERS, VOLTMETERS, MILLIAMMETERS

FOR USE ON DIRECT AND ALTERNATING CURRENT

A COMPLETE MODERN LINE

These improved STERLING Panel Meters while retaining the accuracy, beauty and ruggedness which have always characterized STERLING instruments, show a modern trend in the gracefully unique arrangement of the broader and more clearly defined scales. The meters for alternating current and direct current are perfectly matched and therefore suitable for mounting on the same panel. Both the A.C. and D.C. meters are of the permanent magnet, iron vane, solenoid type. This affords positiveness of action and breadth of movement suggestive of those of the D'Arsonval type. The large needle-tipped pointers and wide clearly marked scale divisions of these panel meters make them easily read.



TYPE 68

Flush case, square flange, standard finish black enamel. Screw holes in flange for mounting. Width flange 2 5/8". Dia. case 2 1/2". Depth case 3/4".

STERLING Panel Meters may be had in any of the types illustrated and also in the Type 90 Projecting Case, 2" in diameter, base 2 3/16" in diameter. Long terminal screws mount through panel. The ZERO ADJUSTER can be supplied for any of the instruments listed, A.C. or D.C. but it can be applied only to those put up in the type 68, 78 or 88 case.

Standard package, 100 meters. Shipping weight 30 lbs.

ALL STERLING Panel Meters are guaranteed accurate within 5%.

Alternating Current Meters

A. C. VOLTMETERS

Number	Range	Volts	List Price
870	0-4	Volts	\$2.50
871	0-6	Volts	2.50
872	0-10	Volts	2.50
873	0-15	Volts	2.50
874	0-150	Volts High Res.	4.25
875	0-300	Volts	5.20
876	0-600	Volts	6.00
877	0-750	Volts	7.75
878	0-10-140	Volts	4.25
879	0-50	Volts	3.00

A. C. MILLIAMMETERS

880	0-25	Milliamperes	\$2.50
881	0-50	Milliamperes	2.50
882	0-100	Milliamperes	2.50
883	0-250	Milliamperes	2.50
884	0-500	Milliamperes	2.50

A. C. AMMETERS

886	0-1	Ampere	\$2.50
887	0-3	Ampere	2.50
888	0-5	Ampere	2.50
889	0-10	Ampere	2.50
890	0-20	Ampere	2.75
891	0-50	Ampere	3.00
892	0-30	Ampere	2.75
898	0-150 A. C. Voltmeter	Plug-in type	3.25

RESISTANCE METERS

Direct Reading			
901	4.5 Volts, 10,000 Ohms		\$2.75
3 Flashlight cells required.			
902	2 M. A., 9 Volts, 100,000 Ohms		4.00
6 Flashlight cells required.			
903	Resistor for 901 Meter		1.75
904	Resistor for 901 Meter		2.25

Direct Current Meters

D. C. VOLTMETERS

Number	Range	Volts	List Price
801	0-1	Volts	\$1.00
802	0-3	Volts	1.00
803	3-0-3	Volts	1.00
804	0-5	Volts	1.00
805	0-6	Volts	1.00
806	0-8	Volts	1.00
807	0-10	Volts	1.00
808	0-15	Volts	1.00
809	0-25	Volts	1.00
810	0-25	Volts High Res.	2.75
811	0-50	Volts	1.00
812	0-50	Volts High Res.	3.25
823	0-75	Volts	1.25
813	0-100	Volts	1.50
814	0-100	Volts High Res.	3.25
815	0-150	Volts	1.75
816	0-150	Volts High Res.	3.25
817	0-300	Volts	3.25
818	0-500	Volts	4.50
819	0-750	Volts	5.50
820	0-8-160	Volts	2.25
821	0-6-240	Volts	2.75
822	0-12-240	Volts	2.75

D. C. MILLIAMMETERS

835	0-2	Milliamperes	\$3.75
836	0-5	Milliamperes	2.25
837	0-10	Milliamperes	2.00
838	0-15	Milliamperes	1.00
839	0-25	Milliamperes	1.00
840	0-50	Milliamperes	1.00
841	0-100	Milliamperes	1.00
842	0-150	Milliamperes	1.00
843	0-200	Milliamperes	1.00
844	0-300	Milliamperes	1.00
845	0-400	Milliamperes	1.00
846	0-20-100	Milliamperes	2.00
847	0-15-150	Milliamperes	2.00
848	0-500	Milliamperes	1.00

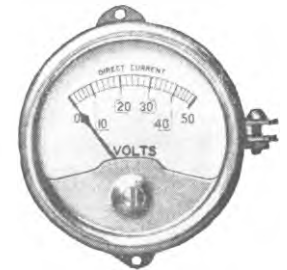
D. C. AMMETERS

855	0-1	Ampere	\$1.00
856	0-3	Ampere	1.00
857	0-5	Ampere	1.00
858	0-10	Ampere	1.00
859	1-0-1	Ampere	1.00
860	3-0-3	Ampere	1.00
861	6-0-6	Ampere	1.00
862	10-0-10	Ampere	1.00
863	20-0-20	Ampere	1.00
864	0-15	Ampere	1.25
865	0-30	Ampere	1.75
866	0-50	Ampere	2.00
867	30-0-30	Ampere	2.00
868	0-20	Ampere	1.50
869	0-40	Ampere	2.00



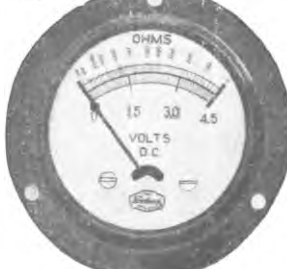
TYPE 80

Flush case, narrow flange, standard finish black enamel or nickel. Circular adjustable back clamp for mounting. Diameter flange 2 5/8". Diam. case 2". Depth case 3/2". Requires hole 2 3/8" in Diameter. Length terminals 1/8".



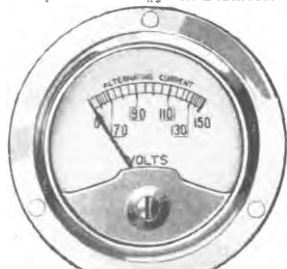
TYPE 88

Flush case, narrow apron flange, for ZERO ADJUSTER equipment. Standard finish black enamel or nickel. Circular adjustable back clamp for mounting. Same dimensions as Type 80.



TYPE 70

Flush case, wide flange, standard finish black enamel or nickel. Screw holes in flange for mounting. Diameter flange 2 5/8". Diam. case 2". Depth case 7/8". Requires hole 2 3/8" in Diameter.



TYPE 78

Flush case, wide flange with apron designed to carry ZERO ADJUSTER equipment. Standard finish black or nickel. Screw holes in flange for mounting. Same dimensions as Type 70.

Type 68 square flange case furnished for any range of meter at an additional list price of 35 cents each. Both A. C. and D. C. meters supplied with ZERO ADJUSTER at an additional list price of 25 cents each.

STERLING POCKET METERS

STANDARD LINE

Direct Current Pocket Ammeters, Voltsmeters and Voltammeters for all Purposes



No. 24A Ammeter



No. 45 Voltammeter

STERLING Pocket Meters are useful in all kinds of battery testing, in railroad signal work, and in telephone and low-voltage electrical work generally. They are polarity indicators.

No. 24 Ammeter, for testing No. 6 dry cells. 0-35 ampere scale, 1 ampere divisions. List Price \$1.25

No. 24A Ammeter for testing dry cells including the heavy-duty Ignition type of cell. 0-50 ampere scale, 1 ampere divisions. List Price, \$1.25

- No. 33 Voltmeter for ordinary single cells and "Flashlight" cells. 0-3 v. scale, 1/10 v. div. List Pr., \$1.50
- No. 34 Voltmeter for "Hot Shot" and Radio batteries. 0-10 volt scale, 1/5 volt div. List Price, \$1.50
- No. 34A Voltmeter for 12 volt batteries. 0-16 volt scale, 1/2 volt divisions List Price, \$1.75
- No. 34B Voltmeter for ordinary 22½ v. radio "B" batteries. 0-30 v. scale, 1 v. divisions List Price, \$1.75
- No. 34C Voltmeter for testing ordinary 45 v. radio "B" batteries. 0-50 v. scale, 1 v. div. List Price, \$2.00
- No. 44 Voltammeter for "Hot Shot" and Radio batteries and No. 6 dry cells, 0-35 ampere scale, 1 ampere divisions; 0-10 volt scale, 1/5 volt divisions List Price, \$1.75
- No. 44A Voltammeter for 12 volt batteries and No. 6 dry cells. 0-35 ampere scale, 1 ampere divisions; 0-16 volt scale, 1/2 volt divisions List Price, \$2.00
- No. 45 Voltammeter for testing No. 6 dry cells and ordinary 45 volt radio "B" batteries. 0-35 ampere scale, 1 ampere divisions; 0-50 volt scale, 1 volt divisions List Price, \$3.00
- No. 45A Voltammeter for testing dry cells including the heavy-duty Ignition type and ordinary 45 v. radio "B" batteries. 0-50 amp. scale, 1 amp. div.; 0-50 v. scale, 1 v. div. List Price, \$3.25

Meters 2¼" in diameter and ⅝" thick. Nickel finish. Standard package, ten instruments, ship. wt. 4 lbs.

STERLING SPECIAL-PURPOSE POCKET METERS—NEW SERIES

Testers for Portable Radio Batteries

The special "A" and "B" dry batteries built for the operation of Portable Radio sets cannot be satisfactorily tested with ordinary battery testers. The new STERLING double voltmeters are designed for testing with correct loads the special "A" and "B" dry batteries used on Portable Radio sets. The new STERLING flexible plugs of these meters fit easily into the small closely spaced socket holes.



No. 38A Voltmeter



No. 42A General Tester

No. 37A Voltmeter for 45 v. "B" batteries and 1.5 v. "A" batteries. Scale 0-50 v., 1 v. div. Scale 0-2 v., 1/10 v. div. Tests 45 v. "B" and 1½ v. "A" batteries. List Price \$2.50

- No. 38A Voltmeter for 90 v. "B" batteries and 1.5 v. "A" batteries. Scale 0-100 v., 5 v. div. Scale 0-2 v., 1/10 v. div. Tests 45 v. and 90 v. "B" batteries and 1½ v. "A" batteries. List Price \$2.75
- No. 39A Voltmeter for 90 v. and 135 v. "B" batteries and 1.5 v. "A" batteries. Scale 0-150 v., 5 v. div. Scale 0-2 v., 1/10 v. div. Tests 90 v. and 135 v. "B" batteries and 1½ v. "A" batteries. List Price \$2.75
- No. 40A Voltmeter for 90 v. and 135 v. "B" batteries and 4.5 v., 6 v. and 7.5 v. "A" batteries. Scale 0-150 v., 5 v. div. Scale 0-10 v., 1/5 v. div. Tests 90 v. and 135 v. "B" batteries and 4½ v. and 7½ v. "A" batteries. List Price, \$3.00
- No. 42A Graphic General Tester. Red and Green color chart for all standard batteries including 45 v. and 90 v. "B" batteries and 1.5 v., 4.5 v., 6 v., and 7.5 v. "A" batteries. 0-100 v. scale for special sizes of "B" batteries, 5 v. div. Tests all Portable Radio batteries. List Price, \$6.00

Testers for Hearing Aid Batteries

- No. 31 Double voltmeter for special 30 or 45 v. "B" batteries and 1½ v. "A" batteries, scale 0-50 v., 1 v. div., scale 0-2 v., 1/10 v. divisions. Carefully engineered to impose the correct loads on the small delicate batteries used to operate vacuum tube hearing aids. Equipped with new STERLING flexible plugs. List Price, \$4.50
- No. 35A Voltmeter for batteries used on carbon type hearing aids, also "C" batteries, scale 0-5 v., 1/10 v. divisions. List Price, \$1.75

Tester for "Eveready Air Cell" Batteries

- No. 30 Tester designed for 2 cell "Air Cell" battery. Condition of the "Air Cell" battery is graphically shown on the colored scale as soon as the connection is made. It indicates reliable minimum strength for new batteries as well as for batteries in operation. List Price, \$1.75

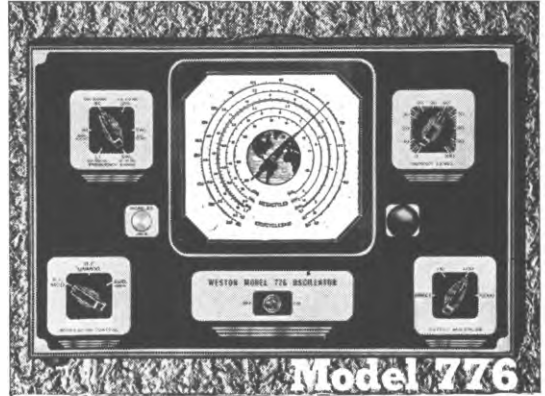
Meters 2¼" in diameter and ⅝" thick. Nickel finish. Standard package, ten instruments, ship. wt. 4 lbs.

Weston RADIO INSTRUMENTS

MODEL 776—OSCILLATOR

Complete Frequency Ranges—50-160 kc; 150-600 kc; 550-2100 kc; 1.6-6 mc; 5-19 mc; 9.5-33 mc by fundamentals; 60 mc by harmonics. **Output**—1 microvolt to .1 volt in 4 controllable steps on I.F. and B.C. bands. Strong signal eliminates need for breaking into I.F. circuit. **Audio Signal**—400 cycle note available for audio test—signal controlled through attenuator. **30% modulation** means greater audibility. Good sine wave characteristics. No 60 cycle distortion. **Operation**—110-130 volts, 50-60 cycles. **Hand Calibrated Scales.** Accuracy $\frac{1}{2}$ of 1% on I.F. and B.C. Bands; 1% on short wave bands. **NO PADDERS OR TRIMMERS.** **Two Speed Dial**—1 revolution of the knob covers entire dial. Gives very fine Vernier adjustments. Big, direct-reading dial—6 feet of visible scale. **Automatic Amplitude Control**—New electronic method of Automatic Amplitude Control (AAC) holds signal more constant than hitherto possible, over entire frequency range. Prevents frequency drift commonly experienced by line voltage fluctuations and tube variations. **Band Switch**—All wiring has been eliminated between switch contacts and coils, and properly isolates coils not in use. **Constant Impedance Attenuator**—100 ohm—elaborate filters—shielded line cord—double shielding—separate attenuator tube—line feedback at a minimum. **Wobbler Jack** is provided for use with frequency modulator for oscillograph tests. **Tubes**—1 No. 6L7; 1 No. 84; 2 No. 76. Stock tubes may be used without special selection. Size: 10" x 16" x 5". Weight: 13 $\frac{1}{4}$ lbs.

Net Price, Model 776 complete.....\$65.25



MODEL 791—BATTERY TESTER

To assist dealers, servicemen and manufacturers in testing and selling dry cell batteries, Weston offers this portable, easy to use tester. This instrument provides a quick, non-technical and convincing means of determining the operating condition of all standard commercial dry batteries. It is direct reading and tests batteries under **ACTUAL OPERATING CONDITIONS** by virtue of proper resistors mounted in the case. The scale is divided into colored sections so that the pointer deflection instantly shows the condition of the battery. Pin jacks on the panel are marked with standard voltage ranges of 1.5, 4.5, 6, 7.5, 45 and 90 volts. Approximate dimensions; 5 $\frac{1}{2}$ " x 3-11/16" x 2 $\frac{1}{4}$ ". Approximate weight 2 lbs.

Net Price Model 791 Battery Tester.....\$15.00



MODEL 669—VACUUM TUBE VOLTMETER

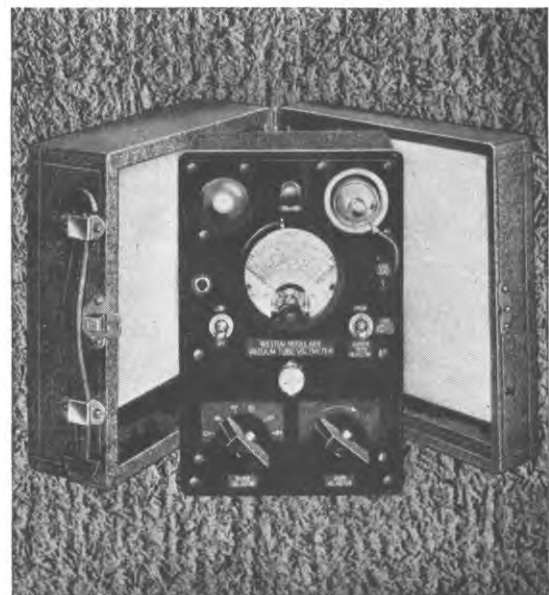
This vacuum tube voltmeter gives measurement of a-c and d-c potentials over an extremely broad band of frequencies. Rapid audible as well as visual meter checks available through the use of ear-phones plugged into special phone jack on the panel. Tests on antenna coils, gain per stage, detector and audio circuits, signal strength and distortion can easily be made.

Practically infinite resistance in ohms per volt. All ranges have input impedance equal to the tube itself, no resistance network being used in the input circuit. AVC circuits not upset when making measurements. **NEON BULB VOLTAGE REGULATOR MAINTAINS CONSTANT OPERATING VOLTAGE.** Operates on 105-130 volts, 42-60 cycles. Size: 8 $\frac{1}{4}$ " x 5 $\frac{1}{2}$ " x 5 $\frac{3}{4}$ ". Weight: 6 $\frac{1}{2}$ lbs.

RANGES: 0/1.2/3/6/8/12/16/30/60/80/120/160 Volts.

Net Price, Model 660, less carrying case.....\$49.50

Net Price, carrying case only for Models 669 and 692.....\$4.13



Weston RADIO INSTRUMENTS



MODEL 772—TYPE 2 SUPER-SENSITIVE ANALYZER 5,000 Volts—20,000 Ohms per Volt

The most complete super-sensitive analyzer on the market today. Addition of new Weston Model 766 Televerter gives top d-c voltage range of 5000 volts. Services television and radio transmitters and receivers, P.A. systems, vacuum tube and cathode ray equipment, sensitive telephone and telegraph relay circuits and can readily be used for industrial and household appliance testing.

Model 766 Televerter is a carefully designed high resistance (100 megohms) multiplier which fits conveniently into the tool compartment of the analyzer. Specially insulated test prongs for protection of operator. Breakdown voltage of 11,000 volts in accordance with A.I.E.E. safety standards. Present owners of Model 772's can adapt the Televerter to the instrument at small extra cost.

Measurements of plate voltage and current on amateur transmitters, as required by the F.C.C., can easily be made. Diode currents in AVC circuits and AFC current can be quickly and accurately measured. Ideal for condenser leakage tests—maximum voltage on any range being 15 volts. Overall accuracy on a-c ranges is within 3% on normal frequencies due to improved rectifier circuit. Practically no frequency error from 50 to 7000 cycles. Temperature error is guaranteed to be within 2% from 40° F to 110° F.

Equipped for mounting Model 666 Socket Selector unit. Black panel trimmed in red and chromium. Size: 15 1/8" x 5 1/8" x 8 3/4". Weight: 8 1/2 lbs.

(Continued top of next column)

MODEL 772 —(continued)

VOLTS		CURRENT			DECIBELS	OHMS
D-C	A-C	D-C Only				
2.5	2.5	.1 Ma.	-14 to +2	0-3000		
10	10	1 Ma.	-2 to +14	0-30,000		
50	50	10 Ma.	+12 to +28	0-3 Meg.		
250	250	50 Ma.	+26 to +42	0-30 Meg.		
1000	1000	250 Ma.	+38 to +54			
5000 (with Televerter)		1 Amp.				
		10 Amp.				

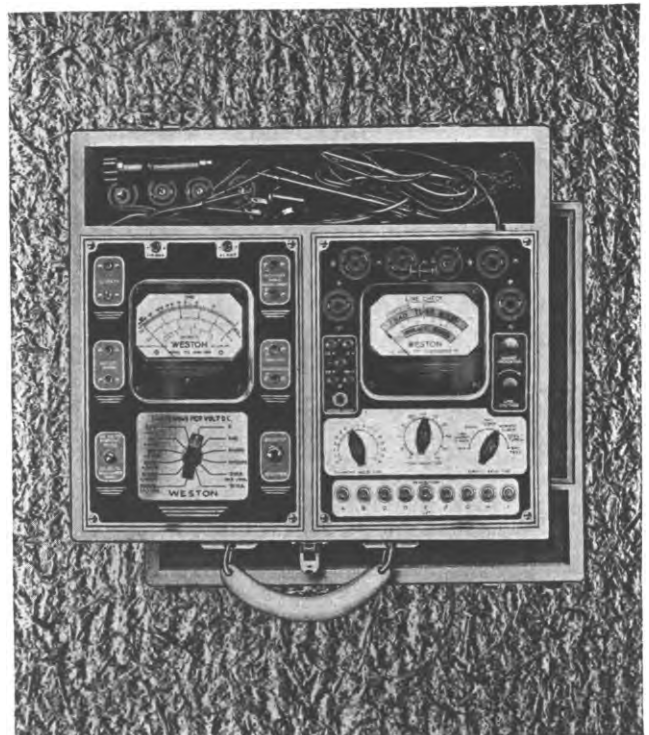
Net Price, Model 772, Type 2.....\$49.50

Net Price, Model 766 Televerter.....\$18.75

MODEL 778—SERVISET

This deluxe test set is a complete portable workshop! It contains Model 772 Super-Sensitive Analyzer and Model 777 Type 1 Tube and Battery Checker. Ideal for both field and shop use—units are mounted in handy combination case... with ample room for Weston socket selector units or tools. Can be quickly mounted on any panel or shop bench—both instruments are identical in size, shape and color—a matched set of accurate radio servicing equipment. If you now own one of these individual instruments, you can complete the set by ordering the remaining unit in the combination case. Size: 5 5/8" x 14 1/4" x 17 1/4". Weight: 17 lbs.

Net Price, 778 less socket selectors.....\$97.50



Weston RADIO INSTRUMENTS



MODEL 777—TYPE 2

COUNTER TYPE

TUBE AND BATTERY TESTER

Step up your tube and battery sales with this eye-appealing Tube and Battery checker, equipped with the TIME SAVING ROTATOR TYPE TUBE INDEXER and the new type SELF-WIPING, LONG SERVICE TOGGLE SWITCHES. . . . RICH . . . colorful . . . dignified . . . With a big, sensitive Weston meter stepped up from an attractive red and black panel. This counter model Tube and Battery checker is ideal for promoting effective merchandising campaigns.

All features . . . TOTAL EMISSION . . . INDIVIDUAL ELECTRODE test . . . neon short check . . . CATHODE LEAKAGE . . . NOISE TEST . . . LINE VOLTAGE CONTROL . . . load tests. WILL CHECK NEW LOKTAL TUBES AND NEW HIGH FILAMENT VOLTAGE TUBES. 1.5, 6, 45 AND 90 VOLT RANGES FOR BATTERY TESTING. Size 14½" x 10½" x 7". Weight 11½ pounds.

\$54.75

Net Price, Model 777, Type 2, complete.....~~\$50.00~~

MODEL 787

ULTRA HIGH FREQUENCY OSCILLATOR

Designed to test and check ALL types of communication equipment operating on high frequency. Specially adapted for servicing FM receivers and short-wave radios in aircraft, police cars, and other mobile units. Fundamental frequency coverage of from 22 to 150 MEGACYCLES at an accuracy within 1%. Alignment and overall operation tests can be made without direct wire connections. HIGH ORDER OF STABILITY AND RESETABILITY. Exact and continuous frequency selection accomplished by new type INDUCTIVE TUNING system. Equipped for use with crystal.

Operates from small antenna rod or by direct connection through attenuator. Radiation from rod is approximately .1 volt and the minimum from the jacks is in the vicinity of 20 microvolts at 23 megacycles, with approximately 40 Db coverage on the attenuator. Self-contained, replaceable battery power supply. Jack provided for connection to external batteries if increased power is required.

400 cycle sine wave modulation available with approximately 30% modulation of R.F. carrier. External modulation up to and including that required for television available through special jack on panel. Size: 8" x 8" x 11". Weight: 16 lbs.

Net Price, Model 787 (less crystal).....\$93.75

MODEL 777—TYPE 1

The same instrument described above is available in a light weight portable carrying case. Has generous compartment for tubes or tools—ideal for checking and selling tubes on the job. Complete rapid-reference chart in cover. Size: 15½" x 8¾" x 5½". Weight: 10 lbs.

\$49.50

Net Price, Model 777, Type 1, complete.....~~\$45.00~~



Weston RADIO INSTRUMENTS



MODEL 665, TYPE 1—SELECTIVE ANALYZER

With this analyzer, a-c and d-c voltage, direct current and resistance can be measured over a total of 33 ranges—all self-contained within this one instrument. A simplified switching and pin jack arrangement facilitates rapid operation.

All d-c and a-c ranges have a sensitivity of 1000 ohms per volt. The accuracy of a-c readings at various frequencies and wave forms is better maintained by using the more efficient full wave rectifier. Output measurements are made through a self-contained fixed condenser.

All resistance spoils are adjusted within 1/2 of 1%, and are non-inductive. Sustained accuracy is assured under all operating conditions.

Ranges: VOLTS, a-c and d-c, (1000 ohms per volt) 1000/500/250/100/50/25/5/2.5/1

OHMS (full scale) 1000/10,000/100,000/1,000,000

OHMS (center scale) 25/250/2500/25,000

MILLIAMPERES, d-c only—500/250/100/50/25/10/5/2.5/1

A-c output ranges—1 to 1000 volts

Size: 5 1/2" x 8 1/4" x 3 7/8"

Weight: 5 lbs.

Net Price, Model 665, Type 1 without carrying case.....\$58.50

Net Price, Carrying Case\$4.13



MODEL 663—VOLT-OHMMETER

Model 663 is exceptionally suited for radio servicing where a wide range, battery-operated ohmmeter is desired along with d-c voltage and current ranges. All ranges are rapidly selected by the rotary switch and pin jacks. The instrument requires only 50 microamperes for full scale deflection. This low current drain permits resistance measurements in critical circuits without seriously disturbing the circuit characteristics.

Standard self-contained batteries supply energy for resistance readings. A special ohmmeter adjustment compensates for changes in battery potential without any effect on meter accuracy.

Ranges: OHMS, (full scale) 0-200/1,000/10,000/100,000/1,000,000/10,000,000

OHMS, (center scale) 0-5/25/250/2,500/25,000/250,000

MILLIAMPERES, d-c—1/5/25/100

VOLTS, d-c—2.5/10/100/250/500/1,000

Size: 8 1/4" x 5 1/2" x 3 7/8"

Weight: 4 1/2 lbs.

Net Price, Model 663 without carrying case.....\$49.13

Net Price, Carrying Case\$4.13

Other Weston Instruments

Model 785 Circuit Tester—27 separate, individual a-c and d-c ranges for the measurement of current, voltage and resistance. Ideal for trouble-shooting on sensitive relay, signal, communication and vacuum tube control circuits. Has sensitivities of 20,000 ohms per volt on d-c and 1,000 ohms on a-c ranges.

D-c voltage—1/10/50/200/500/1000 volts. A-c voltage—5/15/30/150/300/500 volts. D-c current—1/10/100 milliamperes, 1/10 amperes. A-c current—0.5/1.5/10 amperes. Resistance—3,000/30,000-/300,000/3 meg./30 meg. Center scale 25/250/2,500/25,000/250,000 ohms.

Size: 13 x 12 1/2 x 5 1/2 inches.

Weight (with batteries): 13 1/2 lbs.

Net Price, Model 785 in oak carrying case.....\$93.75 ~~\$125.00~~

Net Price, Model 785 without carrying case.....78.75 ~~105.00~~

Model 764 Capacity Meter—For capacity measurements in all types of condensers, paper, mica or electrolytic. Readings direct—not a bridge—**low test potential**—no danger of condenser breakdown—current flow of only 50 a-c microamperes—no shocks. Rectangular instrument similar to Model 765. Ranges in mfd.: .00005-01/1/10/100.

Net Price, Model 764 less carrying case..... \$48.38

Net Price, Carrying Case only..... 4.13

Weston RADIO INSTRUMENTS

MODEL 697—VOLT-OHM-MILLIAMMETER

Very popular pocket-size device with a-c and d-c voltages, d-c milliamperes and ohm ranges. Precision resistors used throughout. Accuracy has not been sacrificed for size. All ranges brought out to pin jacks. Toggle switches protect and connect the meter in the circuit as a voltmeter or ohmmeter. Self-contained $4\frac{1}{2}$ volt battery supplies necessary potential for ohm ranges. Ohmmeter adjustment compensates for changes up to 25% in battery potential without affecting meter accuracy. Accuracy guaranteed to be within 2% on d-c and within 5% on rectified a-c.

Ranges: VOLTS a-c and d-c—0-7.5/15/150/750

MILLIAMPERES, d-c only—0-7.5/75

OHMS (full scale)—5,000/500,000

OHMS (center scale)—35/3500

Size: $5\frac{9}{16}$ " x $3\frac{3}{4}$ " x $3\frac{3}{16}$ "

Weight: $1\frac{3}{4}$ lbs.

Net Price, Model 697, complete with pair of test leads.....\$24.00



Model 697

MODEL 695—TYPE 11

POWER LEVEL METER, VOLTMETER, OUTPUT METER

Gives readings in decibels as well as volts making it ideal for power level measurements in all types of speech equipment and radio receivers. Medium speed, moderately damped movement. Constant impedance of 20,000 ohms. 11 Db ranges from -4 to +36 Db at zero on the Db scale. 7 voltage ranges from 2 to 200 volts. Calibrated for 500 ohm lines with zero level of 6 milliwatts (.006 watts) or 1.73 volts. Complete with pair of test leads. Accuracy guaranteed to be within 5% on rectified a-c. Size: $5\frac{1}{2}$ " x $3\frac{3}{4}$ " x $3\frac{1}{8}$ ". Weight: $1\frac{1}{2}$ lbs.

Net Price, Model 695, Type 11.....\$28.50



Model 695

MODEL 564—VOLT-OHMMETER, TYPE 3-C

A fine, Weston quality instrument with a very useful selection of voltage and resistance ranges. A self-contained $4\frac{1}{2}$ volt battery provides the necessary for the ohmmeter ranges. Ohmmeter adjustment compensates for changes in battery potential without any affect on meter accuracy. Ranges are available from pin jacks. A toggle switch connects meter in circuit as a voltmeter. Complete with a pair of 4 ft. test leads. Accuracy guaranteed to be within 2%.

Ranges: VOLTS, d-c, at 1,000 ohms per volt—0-3/30/300/600

OHMS (full scale)—0-1,000/10,000/100,000/1,000,000

Size: $5\frac{1}{2}$ " x $3\frac{3}{4}$ " x $2\frac{9}{16}$ "

Weight: $1\frac{3}{4}$ lbs.

Net Price, Model 564, Type 3-C.....\$28.80



Model 564

MODEL 666, TYPE 1B SOCKET SELECTORS

With this selector unit you can make all current, voltage and resistance measurements AT THE TUBE SOCKET without breaking soldered connections in the receiver, etc. In addition to all standard tubes, this unit is now equipped to handle the newer octal and loktal tubes.

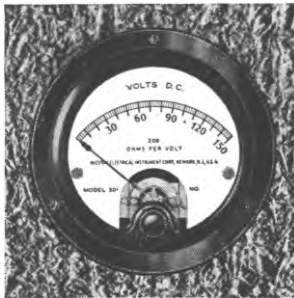
The selector block of the Model 666, Type 1B is quickly mounted on Models 665, 772 and 775 or any other analyzers.

Net Price, Model 666, Type 1B.....\$15.83



**Model 666,
Type 1B**

Weston RADIO INSTRUMENTS



Round Style

PANEL INSTRUMENTS

Distinguished for their fine workmanship and permanently dependable performance with exceptional accuracy for their size, Model 301, 425 and 476 round instruments are regularly supplied in flush type 3/8" bakelite, 3/2" bakelite or 3/4" metal cases with black finish. Model 476 can be obtained in surface metal; Model 301 or 425 in surface metal or bakelite cases. Rectangular bakelite cases, flush type only, are also available.

Model 506, 507 and 517 instruments are regularly supplied in flush type, narrow flange, black finished metal cases with a clamp for panel mounting. Wide flange metal or bakelite cases are available at no extra cost. When ordering specify style, and whether metal or bakelite case is desired.

Instruments for use on circuits above 300 volts should be specified with bakelite cases when not possible to connect in grounded side of line. Normally calibrated for use on non-magnetic panels. If they are to be used on steel panels, specify panel thickness when ordering. List prices shown below, are subject to 25% discount. For other instrument prices write to Weston Electrical Instrument Corp., Newark, N. J.



Rectangular Style

3 1/2" PANEL INSTRUMENTS

MODEL 301 D-C VOLTMETERS

Approximate resistance of Model 301 in ohms per volt—1 to 40 volts, 62; 50 to 150 volts, 200; 200 volts, 250; 250 volts, 300; 300 to 500 volts, 666.

Range	Price	Range	Price	Range	Price
3	\$ 9.00	15	\$ 9.00	150	\$11.25
5	9.00	30	9.00	200	13.00
8	9.00	50	9.00		
10	9.00	100	10.00		

With Resistance of 1,000 ohms per Volt

Range	Price	Range	Price	Range	Price
50	\$12.00	300	\$15.00	1500	\$36.50*
100	12.50	500	17.25	2000	40.00*
200	14.00	1000	24.50*	3000	50.00*

* Supplied with external resistor. Scale reading in kilovolts.

MODEL 301 D-C MILLIAMMETERS*

Range	Approx. Res. Ohms	Price	Range	Approx. Res. Ohms	Price
1	105	\$10.00	30	1.2	\$9.00
1.5	27	10.00	50	2.0	9.00
2	27	10.00	100	1.0	9.00
5	5.7	9.00	150	0.66	9.00
10	2.0	9.00	300	0.33	9.00
15	2.0	9.00	500	0.2	9.00

* Milliammeters with ranges above 30 MA. are shunted, and have a drop of approximately 100 MV.

MODEL 301 D-C AMMETERS*

Single Ranges: 1/1.5/5/10/15/30/50 at \$9.00

* Ammeters are supplied in self-contained ranges up to 50 amperes inclusive, and have a drop of 50 MV \pm 5%. Ranges above 50 amperes supplied with external shunts.

2 1/2" PANEL INSTRUMENTS

MODEL 506 D-C VOLTMETERS

Approximate resistance of Model 506 in ohms per volt: 3 to 150 volts, 125; 200 volts, 200.

Range	Price	Range	Price	Range	Price
3	\$ 7.50	10	\$ 7.50	100	\$ 8.50
5	7.50	15	7.50	150	9.75
8	7.50	50	7.50	200	11.50

MODEL 506 D-C AMMETERS

Single Ranges: 1/1.5/5/10/15/30/50 at \$7.50.

Ammeters, self-contained up to 50 amps., inclusive—drop 50 MV \pm 5%.

MODEL 506 D-C MILLIAMMETERS

Range	Approx. Resis.	Price	Range	Approx. Resis.	Price
1	27	\$ 8.50	50	1	\$ 7.50
1.5	18	8.50	100	.5	7.50
2	18	8.50	150	.33	7.50
5	8.5	7.50	300	.16	7.50
10	3.2	7.50	500	.1	7.50
15	1.5	7.50			

Milliammeters above 30 MA are shunted—drop approximately 50 MV.

MODEL 301 D-C MICROAMMETERS

Range	Price	Range	Price
200	\$14.25	500	\$14.25

MODEL 301 RECTIFIER TYPE A-C VOLTMETERS

Range	1000 ohms		2000 ohms	
	per volt	per volt	per volt	per volt
1.5	.....	19.25	50	\$17.00
3	\$17.00	19.25	100	17.50
5	17.00	19.25	150	19.00
15	17.00	19.25	300	20.00

MODEL 301 RECTIFIER TYPE A-C MILLIAMMETERS

Range	Price	Range	Price
0.5	\$19.25	2	\$15.00
1	15.00	5	14.00

MODEL 301 RECTIFIER TYPE A-C MICROAMMETERS

Range	Price
500	\$19.25

MODEL 476 A-C AMMETERS

Single Ranges: 1/1.5/2/3/5/10/15/20/30/50 at \$9.00.

MODEL 476 A-C VOLTMETERS

Range	Price	Range	Price	Range	Price
2	\$ 9.00	50	\$ 9.00	500	\$19.50
5	9.00	100	10.00	750	23.50*
10	9.00	150	11.25	1000	28.50*
30	9.00	250	14.50		

* Supplied with external resistance box.

MODEL 425 THERMOCOUPLE TYPE AMMETERS

Single Ranges: 1/1.5/2/3/5/10/15/20 at \$16.00.

MODEL 507 THERMO AMMETERS

For use on a-c of any frequency, including radio frequency. Single Ranges: 1/1.5/2/3/5/10/15/20 at \$14.50.

MODEL 517 A-C AMMETERS

Range	Approx. Res. in ohms	Price	Range	Approx. Res. in ohms	Price
1	.203	\$ 7.50	20	.00162	7.50
3	.024	7.50	30	.0007	7.50
5	.01	7.50	50	.00057	7.50
10	.0058	7.50			

MODEL 517 A-C VOLTMETERS

Range	Approx. Ohms per Volt	Price	Range	Approx. Ohms per Volt	Price
1.5	3	\$ 7.50	25	26	\$ 7.50
2	4	7.50	50	52	7.50
3	6	7.50	130	110	9.00
5	10	7.50	150	110	9.75
10	14	7.50	250	166	13.00
15	14	7.50	300	166	15.00

PRECISION

TEST EQUIPMENT

STANDARD OF ACCURACY

SERIES 920

Combination Dynamic Mutual Conductance Type Tube Tester and 33 Range Rotary Selective A.C.-D.C. Multi-Range Set Tester



★ 920P

Hardwood portable type carrying case with removable cover and tool compartment. Walnut finish. Size 12x13x6. Complete with battery and test leads. Code: Drive.

NET PRICE
\$53.95



★ 920MCP (at left) — Open type metal case portable; black ripple finish. Size 12 x 10½ x 6. Complete with instructions, battery and test leads. Code: Dicer.

NET PRICE \$49.95

★ 920C (at right) — Counter type, black ripple finish on heavy gauge steel. Size 16 x 12 x 8. Slopes to 3 inches at front. Complete with instructions, battery and test leads. Code: Drake.

NET PRICE \$53.95



★ 920PM (at left) — Combination of 920MCP inserted in black ripple finish steel panel (12¼ x 19) with back dust cover 6 inches deep. Unit removable from front for portable use. Suitable for standard relay rack or Precision Rack Cabinet. Code: Dream.

NET PRICE \$53.95

SET ANALYZING FEATURES

★ SIX A.C. AND SIX D.C. VOLTAGE RANGES at 1000 ohms per volt: 0-12; 0-60; 0-300; 0-600; 0-1200; 0-3000 volts. ★ FIVE D.C. CURRENT RANGES: 0-1.2; 0-12; 0-120; 0-600 MA; and 0-12 AMPERES. ★ FOUR RESISTANCE RANGES: 0 to 400 Ohms; 0 to 100,000 Ohms; 0 to 1 Meg.; 0 to 10 Megs. All ohmmeter ranges powered by self-contained supply. ★ SIX DECIBEL RANGES FROM -10 to +64DB. ★ SIX OUTPUT RANGES: Same as A.C. Voltage Ranges. ★ MASTER RANGE SELECTOR SYSTEM: Permits simplified speedy measurements. ★ LARGE 4 5/8" MODERN "PRECISION" SQUARE TYPE METER: D'Arsonval type: 400 microamperes full scale sensitivity. ★ EASY READING SCALES AND NUMERALS. ★ CONDENSER LEAKAGE TESTS. ★ SHUNTS WIRE WOUND to 1% accuracy. Multipliers matched to 1% accuracy. ★ ACCURACY of all ranges closely maintained to A.C. ACCURACY 3%; D.C. ACCURACY 2%.

TUBE ANALYZING FEATURES

★ A DYNAMIC MUTUAL CONDUCTANCE TYPE TUBE TESTER employing an exclusive "PRECISION" engineered circuit, which in one operation, effectively tests all radio receiving tubes for both MUTUAL CONDUCTANCE and CATHODE STRUCTURE. ★ TESTS ALL TUBE TYPES: ALL FILAMENT VOLTAGES from 1.4 to 120 volts. TESTS LOKTALS, BANTAM JUNIOR AND THE NEW BUTTON 7 PIN PORTABLE RADIO AND HEARING-AID BATTERY TYPES, SINGLE ENDED, TELEVISION AND F. M. AMPLIFIERS, REGULAR OCTALS (MG, G, 'GT and METALS), SPRAY-SHIELD AND GLASS TYPES. ★ AUTOMATIC PUSH-BUTTON SYSTEM: Flexibility for non-obsolete free point tube analysis and accommodation of future tube releases. ★ DUAL FREE POINT FILAMENT TERMINAL SELECTION. ★ VISIBLE FILAMENT CONTINUITY TESTS. ★ SPECIFIC INDIVIDUAL LOADS AND VOLTAGES: APPLIED TO ELEMENTS OF TUBE UNDER TEST. ★ VARYING A.C. SIGNAL applied to control grids. ★ METER READS IN PLATE CIRCUIT: Indications are entirely dependent upon control action (transconductance) of each of the intervening elements. Meter indication shows up tubes having open elements. ★ TESTS diodes, triodes, rectifiers, tetrodes, pentodes, multi-purpose tubes, gaseous types OZ3-OZ4 and remote control gaseous types OA4 and 2A4. Individual tests for each section of multi-section tubes including visible tests of the fluorescent screen and winking effect on cathode ray indicator tubes. ★ HOT CATHODE LEAKAGE TEST. ★ HOT INTER-ELEMENT SHORT TESTS. ★ NOISE TEST pin jacks incorporated for earphone or amplifier connection. ★ BALLAST TESTS: The regular tube test sockets accommodate all ballast units. ★ PILOT LIGHT TESTS. ★ BUILT-IN DOUBLE WINDOW ROLLER TUBE CHART. ★ MICRO-LINE ADJUSTMENT read directly on meter. No arbitrarily tapped transformer employed. ★ PILOT LIGHT (ON-OFF) INDICATOR: FUSED LINE PLUG. ★ TELEPHONE CABLED WIRING EMPLOYED THROUGHOUT. ★ ACCURACY of the tube test circuit is closely maintained by the use of individual calibrating controls.

SERIES 910 and 912

Dynamic Mutual Conductance Type Tube Testers

The Series 910 incorporates a modern 3 inch square type meter with D'Arsonval movement of 2% accuracy. The 912 Series incorporates an impressive 4 5/8" square type meter of 2% accuracy. The physical appearance of these instruments is otherwise the same as shown for the 920 Series. Circuit features of both Series 910 and 912 are exactly the same as described for the 920 Series under heading "Tube Analyzing Features."

★ 910P—Hardwood portable type carrying case with removable cover and tool compartment. Walnut finish. Size 12 x 13 x 6. Code: Front

NET PRICE \$33.95

★ 910MCP—Open type metal case portable; black ripple finish. Size 12 x 10½ x 6. Code: Frail

NET PRICE \$29.95

★ 910C—Counter type, black ripple finish on heavy gauge steel. Size 16 x 12 x 8. Slopes to 3 inches at front. Code: Friak.

NET PRICE \$33.95

★ 910PM—Combination of 910MCP inserted in black ripple finish steel panel (12¼ x 19) with back dust cover 6 inches deep. Unit removable from front for portable use. Suitable for standard relay rack or Precision Rack Cabinet. Code: Fried.

NET PRICE \$33.95

★ 912P—Hardwood portable type carrying case with removable cover and tool compartment. Walnut finish. Size 12 x 13 x 6. Code: Fence

NET PRICE \$35.95

★ 912MCP—Open type metal case portable; black ripple finish. Size 12 x 10½ x 6. Code: Felon

NET PRICE \$31.95

★ 912C—Counter type, black ripple finish on heavy gauge steel. Size 16 x 12 x 8. Slopes to 3 inches at front. Code: Frame.

NET PRICE \$35.95

★ 912PM—Combination of 912MCP inserted in black ripple finish steel panel (12¼ x 19) with back dust cover 6 inches deep. Unit removable from front for portable use. Suitable for standard relay rack or Precision Rack Cabinet. Code: Fetid.

NET PRICE \$35.95

PRECISION

TEST EQUIPMENT

STANDARD OF ACCURACY

PRECISION DeLUXE DYNAMIC ELECTRONOMETERS

Dynamic Mutual Conductance Type Tube Testers with Large 9" Square Meters



SERIES 915 TUBE MERCHANDISER

Attractively finished in black ripple with chromium trim and chromium meter lamp reflector. Case of heavy gauge steel. Size 23 inches high, 16 inches wide. Bottom depth 10 inches and tapers to 4 inches at top. Code: Grace.

NET PRICE \$51.95

- * Inspire Customer Confidence.
- * Increase Tube Sales with this new modern impressive Precision Tube Merchandiser.
- * Large 9" SQUARE TYPE METER.
- * EASY READING 3 colored Replace-Weak-Good scale.
- * Full Vision Roller Tube Chart.
- * Instrument Panel illuminated by large Chromium Reflector.
- * Precision Dynamic Mutual Conductance test circuit insures accurate and reliable tube testing results.
- * Electrical features exactly the same as Tube Analyzing features described for Series 920.

915PM PANEL MOUNT TUBE MERCHANDISER

Designed for panel mount use. The 9" meter is mounted on one panel and the instrument on another. Panels are identical in size 19 x 12 1/4. Also suitable for standard rack panel use or with Precision Rack Cabinet. Code: Grail.

NET PRICE \$49.95

SERIES 922 COMBINATION TUBE MERCHANDISER AND MULTI-RANGE TESTER

Attractively finished in black ripple with chromium trim and chromium meter lamp reflector. Case of heavy gauge steel. Size 23 inches high, 16 inches wide. Bottom depth 10 inches and tapers to 4 inches at top. Code: Grade. NET PRICE \$67.95

The Series 922 DeLuxe Laboratory Dynamic Electronometer has been designed primarily for the discriminating radio service organization, desirous of increasing customer confidence in tube testing, sales and service facilities.

The over-size components as described for the Series 915, combined with the addition of 33 multi-range meter functions, makes this instrument indispensable for the foundation of a speedy and efficient service system. Tube test and multi-range meter specifications are exactly the same as those listed for the Series 920.

922PM PANEL MOUNT TUBE MERCHANDISER WITH MULTI-RANGE TESTER

Designed for panel mount use. The 9" meter is mounted on one panel and the instrument on another. Panels are identical in size 19 x 12 1/4. Also suitable for standard rack panel use or with Precision Rack Cabinet. Code: Grain.

NET PRICE \$65.95

SERIES 914

Modern Counter Type Tube Merchandiser employing a large 7" chrome trimmed SWIVEL MOUNTED METER



An economically priced, but nevertheless elaborate, attractively designed instrument, occupying a minimum of counter space. The 7" swivel mounted meter provides both customer and operator with a FULL VIEW of test results, regardless of cabinet position.

- * A modern, streamlined, customer appealing tube merchandiser.
- * Large, easy reading, 7" chrome trimmed bakelite cased meter.
- * 3 colored—REPLACE—WEAK—GOOD SCALE with 0-100 tube matching reference arc.
- * Full vision double-window roller tube chart.
- * Dynamic Mutual Conductance Tube testing features, same as described for Series 920.

* 914 TUBE MERCHANDISER—Attractive, modern streamlined design with chrome trimming on fine dull black wrinkle-finished, heavy gauge cabinet. Separately encased meter, swivel mounted. Cabinet size 16" x 13 1/2" x 7", slopes to 3" at front. Code: Handy. NET PRICE \$39.95

SERIES 954

Combination Dynamic Mutual Conductance Type Tube Tester and 37 Range Super-Sensitive AC-DC Multi-range Set Tester 20,000 OHMS PER VOLT DC



A complete service laboratory; one compact unit, provides every facility for accurate, reliable solutions of all tube test and measurement problems of Radio (A.M. and F.M.), and Television.

TUBE ANALYZING FEATURES

- * Same as Dynamic Mutual Conductance tube test circuit described for the Series 920.

SET ANALYZING FEATURES

- * SEVEN AC and SEVEN DC VOLTAGE RANGES; 0-3 to 0-6000 volts. 20,000 ohms/volt DC—1000 ohms/volt AC.
- * SEVEN DC CURRENT RANGES. 0-60 microamps to 0-12 AMPS.
- * SELF-POWERED RESISTANCE RANGES to 60 MEGOHMS.
- * SIX DECIBEL RANGES. -12 to +70 DB.
- * SEVEN OUTPUT RANGES to 6000 volts.
- * 4 5/8" —50 microamp bakelite cased meter.
- * 954P—(illustrated) In hardwood portable walnut finish case; removable cover and tool compartment. Size 12" x 13" x 6". Complete with batteries and extra-high voltage test leads. Code: Happy. NET PRICE \$65.95

The Series 954 is also available in the same additional types of housings described for the Series 920.

- * 954MCP—Open type portable—complete with batteries and high voltage test leads. Code: Horse. NET PRICE \$61.95
- * 954C—Counter type—complete with batteries and high voltage test leads. Code: Human. NET PRICE \$65.95
- * 954PM—Standard Panel Mount—complete with batteries and high voltage test leads. Code: Hermit. NET PRICE \$65.95

PRECISION

TEST EQUIPMENT

STANDARD OF ACCURACY

SERIES 844

34 Range A.C.-D.C. Volt-Ohm-Decibel-Milliammeter
6000 volts A.C. and D.C., 10 megohms, and 12 amps.

THE SERIES 844 PROVIDES COMPLETE FACILITIES FOR OBTAINING ALL MEASUREMENT REQUIREMENTS FOR SERVICE, AMATEUR, LABORATORY, TELEVISION AND INDUSTRIAL USE.

* 844L—Housed in walnut finished hardwood open type case with carrying handle. Compact in size 7" x 8" x 4". Code: Manse.

NET PRICE (Less Batteries and test leads) **\$22.95**



SPECIFICATIONS

- * SIX A.C. and SIX D.C. VOLTAGE RANGES at 1000 ohms per volt: 0-12; 0-60; 0-300; 0-600; 0-1200; 0-6000 volts.
- * SIX D.C. CURRENT RANGES: 0-1.2 MA to 0-12 AMPERES.
- * FOUR RESISTANCE RANGES: Batteries mount inside of case 0-400; 0-100,000 ohms; 0-1 meg.; and 0-10 megs.
- * SIX DECIBEL RANGES from -12 to +70DB.
- * SIX OUTPUT RANGES: 0-12 to 0-6000 volts.
- * Large 4 5/8" 400 microampere bakelite cased meter.
- * All instruments individually calibrated and sealed against laboratory standards assuring 2% D.C. and 3% A.C. overall accuracy. Complete telephone cabling employed.

* 844P—In closed type portable case. Code: Malad. NET PRICE (Less batteries and test leads) **\$24.95**

* 844PM—In standard panel mount, 19" x 12 1/4". Code: Maize. NET PRICE (Less batteries and test leads) **\$25.95**

INDUSTRIAL CIRCUIT TESTERS

* 844J—All purpose Industrial Circuit tester. Consists of 844 and Series J A.C. Ammeter in closed type portable case. Code: Miser. NET PRICE (Complete with batteries and extra-high voltage test leads) **\$44.95**

* 844J-PM—Same as 844J but in standard panel mount, 19" x 12 1/4". Code: Month. NET PRICE (Complete with batteries and extra-high voltage test leads) **\$45.95**

SERIES "J" MULTI-RANGE A.C.-AMMETER

300 Milliampere Full Scale to 60 Amperes

- * 8 Ranges: 0-300-600-1200 Milliampere — 0-3-6-12-30-60 AMPERES.
- * For use on all line frequencies 25-60 cycles.
- * RED correction scale for Direct Reading on 25 cycles.
- * Large, easy reading 4 5/8" bakelite cased meter—2% accuracy.
- * Heavy duty bakelite insulated binding posts.
- * Accurate, Reliable, Rugged! Ideal for radio service, electrical appliance and motor repairs, refrigeration, air-conditioning, transmitting, etc.



* Series "J" L—In open face hardwood walnut finished carrying case. Code: Atone. NET PRICE **\$17.95**

* Series "J" PM—In standard Panel Mount. Code: Apron. NET PRICE **\$20.95**

Series "J" P—(illustrated) In hardwood walnut finished carrying case, with hinged removable cover and tool compartment, size 9" x 10" x 6". Code: Apple. NET PRICE **\$19.95**

SERIES 854

37 RANGE A.C.-D.C. Super-Sensitive Tester
6000 Volts A.C. and D.C.,
60 MICROAMPS., 12 AMPS., AND 60 MEGS.



20,000 OHMS PER VOLT D.C. sensitivity makes this instrument ideal for reliable measurements in modern radio (A.M. and F.M.) and television circuits where only minute current drain of the measuring instrument can be tolerated.

SPECIFICATIONS

- * SEVEN D.C. VOLTAGE RANGES 20,000 ohms/volt; 2% accuracy: 0-6; 0-12; 0-60; 0-300; 0-600; 0-1200; 0-6000 volts.
- * SEVEN A.C. VOLTAGE RANGES 1,000 ohms/volt; 3% accuracy: 0-3; 0-12; 0-60; 0-300; 0-600; 0-1200; 0-6000 volts.
- * SEVEN D.C. CURRENT RANGES: 2% accuracy: 0-60, 0-300 microamps; 0-3, 30, 120, 600 MA; 0-12 AMPS.
- * THREE RESISTANCE RANGES: Self-contained batteries: 0-6000, 0-600,000 ohms, 0-60 megohms.
- * SIX DECIBEL RANGES FROM -12 to +70DB.
- * SEVEN OUTPUT RANGES: 0-3-12-60-300-600-1200-6000 volts.
- * Large 50 microampere 4 5/8" bakelite-cased meter.
- * WIRE-WOUND SHUNTS, METALLIZED MULTIPLIERS—1% ACCURACY.

* 854P—(illustrated) In attractive walnut finished hardwood portable case with removable cover and tool compartment. Size 9" x 10" x 6". Code: Churn. NET PRICE (Complete with batteries and high voltage test leads) **\$39.95**

The Series 854 is also available in the same type of mountings and combinations described for Series 844.

* 854L—Open portable: complete with batteries and high voltage test leads. Code: Civil. NET PRICE **\$37.95**

* 854PM—Panel mounted: complete with batteries and high voltage test leads. Code: Claim. NET PRICE **\$40.95**

INDUSTRIAL CIRCUIT TESTERS

* 854J—Portable industrial circuit tester. Complete with batteries and test leads. Code: Close. NET PRICE **\$59.95**

* 854J-PM—Panel industrial circuit tester. Complete with batteries and test leads. Code: Clerk. NET PRICE **\$60.95**

SERIES 832

31 Range A.C.-D.C. Multi-Range Tester



Incorporates the LARGEST METER (3 5/8" wide) ever provided in such a compact instrument—SCALE LENGTH, VISIBILITY, EASE OF READING never before obtainable in small low-priced multi-range testers.

- * 6 D.C. voltage ranges—1000 ohms/volt 0-6-30-150-300-600-1200 volts.
- * 6 A.C. voltage ranges—500 ohms/volt 0-12-60-300-600-1200 2400 volts.
- * 4 D.C. current ranges—0-1.2 to 0-600 Milliamps.
- * 3 Resistance ranges to 5 MEGS. Up to 500,000 ohms on internal battery.
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- * 6 Output ranges to 2400 volts.

* 832—In hardwood walnut finished case (7" x 4 1/2" x 3") with leather handle, complete with batteries (less test leads). Code: Anvil. NET PRICE **\$14.95**

- * Wire-wound shunts, metallized multipliers—1% tolerance.
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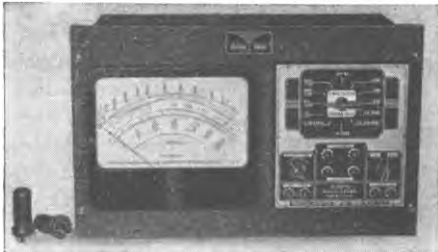
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TEST EQUIPMENT

STANDARD OF ACCURACY

SERIES 862

A.C.-D.C. VOLT - OHM - DECIBEL - MILLIAMMETER
A Laboratory Multi-Range Tester Incorporating a
Large 9" Meter and Remote Control Selector Unit



★ 862—In standard panel mount finished in black ripple. Size 19 x 12 1/4 with dust cover 6 inches deep. Code: Baker.

NET PRICE (Complete with batteries and high voltage test leads) **\$39.95**

The Series 862 DeLuxe Multi-Range Tester is housed in standard panel mount, designed for the Precision Laboratory Cabinet Rack or any other standard relay rack. The Selector Unit is easily slid out from its panel compartment for remote bench operation.

The 9" Precision Rectangular Meter with large easy reading scales and numerals, allows highly accurate readings with minimum eye strain.

This instrument is an indispensable adjunct to the radio, industrial, and television laboratory where operator efficiency is at a premium.

All electrical specifications are the same as described for the Series 844.

ALL PURPOSE CIRCUIT TESTER

★ 862J-PM—Consists of the 862 meter on one panel and remote control unit and "J" unit on another panel. Panels are identical in size, 19" x 12 1/4". Suitable for standard rack mount or with Precision Rack Cabinet. Code: Bench.

NET PRICE (Complete with batteries and high voltage test leads) **\$61.95**

TYPE 212 CABINET RACK

The Series 212 Cabinet Rack accommodates ANY combination of two Panel Mount (PM) type units described on the 3 previous pages of this catalog.

The exclusive Precision "Two in One" slide-in and slide-out feature permits the separately encased Precision instrument, housed in its Panel Mount compartment, to be INSTANTLY "SLID-OUT" from the front for either remote or completely independent portable use. A "Snap-on" carrying handle, as supplied, is quickly attached to the portable metal cabinet for field use and is just as readily detached to allow the instrument to be "SLID-IN" (returned) to its panel mount compartment. There is no need to remove any screws, bolts or nuts to "slide-in" or "slide-out" any instrument.

The illustration on this page shows only one of the many possible Cabinet Rack combinations which can be built up with the Precision Panel Mount (PM) type units, incorporating the "SLIDE-IN" "SLIDE-OUT" portable feature.



CABINET RACK SPECIFICATIONS

★ 212 — Cabinet Rack only: Black Ripple finished, heavy gauge steel; complete with modern chrome lamp reflector, 40 watt tubular lamp, 5 feet extra wire for panel interwiring, two A.C. convenience outlets, all wired to external line cord. Size of rack: 29" high; 21" wide; 14" base depth and tapers to 6" top depth.

NET PRICE **\$16.95**

★ TYPE 212 RACK
with 862 and E-200PM

SERIES E-200 SIGNAL GENERATOR

For All A.M., F.M. and Television Receivers,
featuring "Servicing by Signal Substitution"

● Six Bands: 90 KC to 88 MC. ● Accuracy—Constancy of calibration: MAXIMUM of 1% DEVIATION on all bands, insured by use of the "PRECISION" developed "UNIT OSCILLATOR" construction. ENTIRE "UNIT OSCILLATOR" is SINGLE-POINT-MOUNTED, providing positive freedom from effects of mechanical shock, eliminating the need of costly, useless, single frequency reference crystals. ● LARGE FULL VISION 6 1/2 INCH NO-GLARE DIAL: approx. 6 feet of direct reading deeply etched scales. Ball bearing planetary drive.

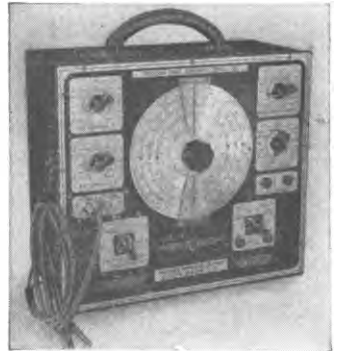
● 0-100 Point Vernier Scale and Twin Hair-Line Indicators: provide direct reading to one part in 1000 for critical laboratory usage. ● The Circuit—uses the new 6S7 in a highly stable E.C.O. circuit—Modulated in the buffer amplifier by a 6C5 400 cycle sine-wave audio oscillator. An 80 full-wave rectifier forms the basis of a hum-free D.C. supply. ● 400 Cycle Sine-Wave Audio Oscillator—Independently Controlled—provides both modulation and external audio signal of over 60 volts. ● DUAL CALIBRATED R.F. Attenuators—Separately shielded—provides direct R.F. gain measurement facilities and smooth stepless control.

● LOW LEAKAGE: complete shielding of all vital components, in addition to a heavy gauge etched Aluminum panel and steel cabinet—Power transformer electro-statically shielded—A.C. line, choke-condenser filtered. ● SELF-SHIELDING COAXIAL OUTPUT CABLE and dual (LOW-HIGH) coaxial connectors with separate screw cap for elimination of leakage from unused terminal. ● Four Types of Signals—"Unmodulated R.F.," "400 cycle Modulated R.F.," "EXTERNALLY Modulated R.F.," (frequency or amplitude) "400 cycle Audio Output."

● VARIABLE MODULATION CONTROL—0-100% modulation AT WILL—more than triples signal utility as against obsolete fixed modulation of only 30 or 40%. ● A.V.C. SUBSTITUTION SYSTEM—The Series E-200 fully overcomes serious alignment troubles arising from receiver A.V.C., by supplying ITS OWN A.V.C. VOLTAGE, controllable at the front of the panel from 0-50 volts. ● HAND CALIBRATION—Each instrument INDIVIDUALLY hand calibrated on all six bands. ● Fully licensed under patents of American Telephone & Telegraph Co. ● Not only an unsurpassed, efficient Signal Generator for purposes of alignment but SPECIFICALLY DESIGNED for "Servicing by Signal Substitution", the new modern Dynamic speed approach to receiver alignment and adjustment problems, described in a new 120 page illustrated text book.

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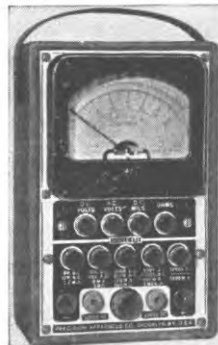


SERIES 872

Automatic Push Button AC-DC Multi-Range Tester

SPECIFICATIONS

- ★ 6 D.C. VOLTAGE RANGES at 1000 ohms per volt: 0 to 6/30/300/600/1200 and 3000 volts.
- ★ 5 A.C. VOLTAGE RANGES at 500 ohms per volt: 0-12/60/600/1200 and 3000 volts.
- ★ 5 D.C. CURRENT RANGES: 0-1.2/12/120/600/1200 milliamperes.
- ★ 3 RESISTANCE RANGES: 0-5000 ohms (20 ohms at center of scale) 0-500,000 ohms (powered by self-contained 3 volt battery) 0-5 megohms (powered by external battery).
- ★ FIVE DECIBEL RANGES: —10 to +64DB.
- ★ OUTPUT METER INDICATIONS on Five A.C. voltage ranges.
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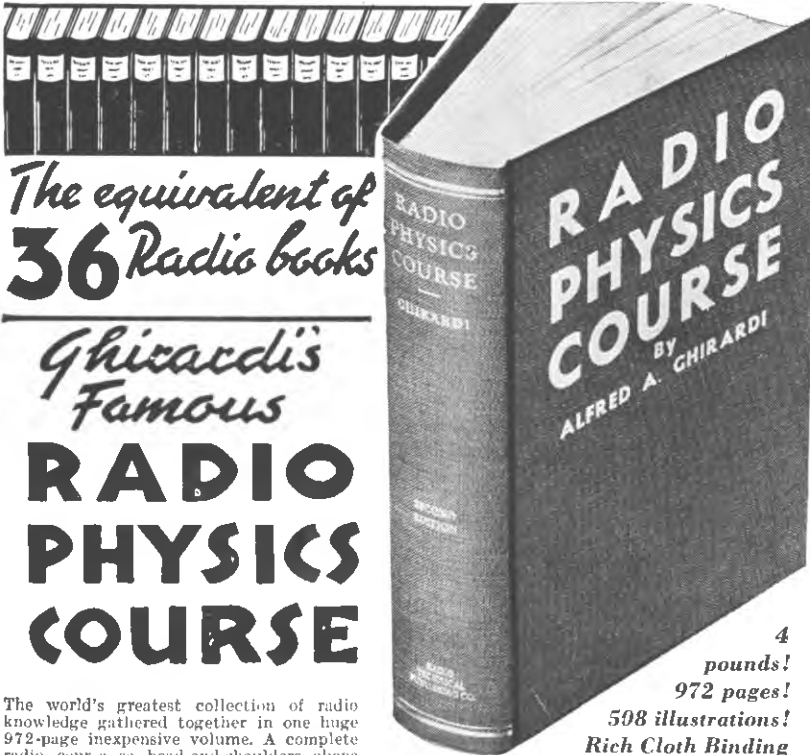
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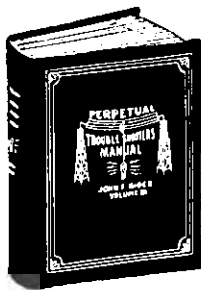
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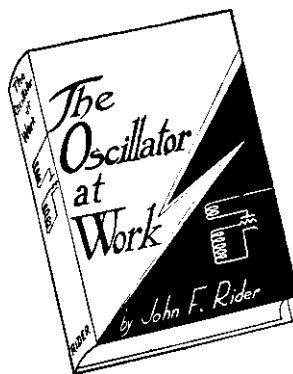
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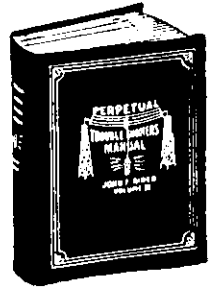


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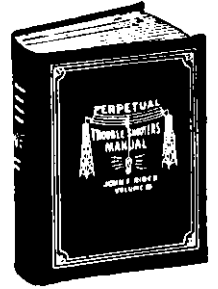


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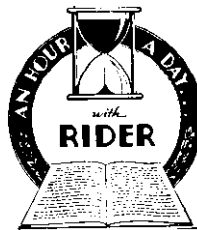
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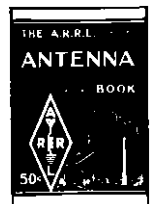


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*RADIO'S MASTER
ENCYCLOPEDIA*

HALLICRAFTERS COMMUNICATIONS EQUIPMENT

The New 1941 SUPER SKYRIDER!

The Communications receiver that sets new standards for receiver performance! Frequency range 540 KC to 43 MC in 6 bands.

Two stages of preselection—high fidelity, push pull audio—band pass audio filter—Calibrated band spread—micrometer scale on main dial knob. Heavy gauge steel cadmium plated chassis—standard size relay rack panel 1/8 inch thick—machine tool gray wrinkle finished cabinet well ventilated and attractively designed.

See the 1941 SUPER SKYRIDER and you will know why the HALLICRAFTERS lead in communications equipment value.

The Model SX-28 1941 SUPER SKYRIDER PRICES **\$159.50** start at.....NET



The New SKYRIDER 28

GENERAL SPECIFICATIONS

FREQUENCY RANGE:

- Band 1— 540 to 1650 KC
- Band 2— 1.5 to 3.2 MC
- Band 3— 3.0 to 6.2 MC
- Band 4— 5.5 to 12.0 MC
- Band 5—11.0 to 23.0 MC
- Band 6—21.0 to 43.0 MC

TUBE LINEUP:

- 1-6SK7 1st RF Amplifier
- 1-6SK7 2nd RF Amplifier
- 1-6SA7 Mixer
- 1-6SA7 H.F. Oscillator
- 1-6L7 1st IF Amplifier—noise limiter
- 1-6SK7 2nd IF Amplifier
- 1-6B8 2nd Detector and meter
- 1-6B8 AVC Amplifier
- 1-6SK7 Noise Amplifier
- 1-6H6 Noise Rectifier
- 1-6J5 B.F.O.
- 1-6SC7 1st Audio Amplifier
- 2-6V6GT Push-Pull output Amplifier
- 1-5Z3 Rectifier

CONTROLS:

- Micrometer scale main tuning inertia controlled
- Calibrated band spread inertia controlled
- Tone and AC ON-OFF
- Beat Frequency Oscillator
- A.F. Gain
- R.F. Gain
- 6 Position band switch
- Antenna Trimmer
- 6 Position selectivity control
- Crystal phasing
- Adjustable noise limiter
- Send-Receive Switch
- A.V.C.-B.F.O. Switch
- Bass boost switch
- Phone jack

PHYSICAL CONSTRUCTION:

Chassis substantially constructed of 14 gauge steel with flanged edges and flame welded corners. Condenser cover and coil shield compartments assembled to chassis in box girder type of construction. Brushed cadmium plating protects the chassis and metal components. A 1/8 inch thick steel panel is used with etched control markings and Morocco finish. The 8 3/4" x 19" dimensions of the panel are for standard relay rack mounting. The Cabinet is made of 16 gauge steel attractively finished in machine tool gray wrinkle. Special consideration in the design of the cabinet was given to provide adequate ventilation.

MECHANICAL FEATURES:

New type inertia-controlled back-lash free dial mechanism on both main tuning and bandsread dials. This mechanism is preloaded and the main shafts are supported at both ends with ball bearings. The chassis is removed from the front panel and firmly positioned with two brackets which support it without danger of strain or torque. Both main tuning and band spread condensers are semi-floating and mounted to the chassis at three points. Components arranged for best electrical efficiency with full consideration for convenience of control mountings.

ELECTRICAL FEATURES:

- 1-15 tubes
- 2-6 bands for most satisfactory L/C ratio
- 3-2 R.F. Stages
- 4-Push-pull high fidelity, audio output
- 5-6 step wide range variable selectivity
- 6-Band pass audio filter
- 7-Wide angle "S" meter
- 8-Phono jack
- 9-Adequate headphone output
- 10-Improved signal to image and noise ratio
- 11-80/40/20/10 meter amateur bands calibrated
- 12-Temperature compensated high frequency oscillator

CABINET DIMENSIONS:

20 1/2" long—14 1/2" deep—9 1/2" high.

The MODEL SX-28 Receiver with crystal and tubes, **\$159.50** less speakerNET

HalliCrafters Jensen bass-reflex enclosure including 12" speaker 30" high—16" deep—22 1/2" wide—Model R12 **\$29.50**

HalliCrafters Jensen bass-reflex enclosure including 8" speaker 23 1/2" high—10 1/4" deep—17 1/2" wide—Model R8 **\$19.50**

Available in U.S.A. on HalliCrafters Factory-Sponsored Time Payment Plan

The New SUPER DEFIANT SX-25



AMATEURS from coast to coast acclaim this new, de luxe model, amateur receiver as the finest ever developed at anywhere near this price. It offers even better performance than that of the famed SX-17. Its general circuit is based on the proved efficiency of America's best selling receiver, the Sky rider DEFIANT.

Among its outstanding advantages are *extreme selectivity* and *more and better audio*. The design of the crystal filter makes possible critical CW operation under trying conditions of interference, and, in addition, the sensitivity of the receiver is raised from 2.8 to 4 times in the "CW Xtal" position when the receiver is tuned to the exact resonant frequency of the crystal itself; this means more *usable* sensitivity.

Both IF stages are expanded in the "Broad IF" position for high fidelity performance. An effective AVC or automatic volume control circuit keeps most signals at uniform audibility. The automatic noise limiter reduces interference by as much as 70%. The extremely low noise level of the SUPER DEFIANT makes it sensitive to very weak signals.

Every part is placed for best performance without regard for symmetry or beauty. Being self-contained there are no external units except the speaker. Tuning is effortless. Controls are conveniently located.

The SUPER DEFIANT (Model SX-25)—Complete with Speaker, Crystal and **\$99.50** Tubes. Shipping weight 52 lbs. . . .

Extra for Univ. 110-250 volts, 25-60 cycles. \$5.00

FEATURES

2 Stages of Preselection.

Twelve tubes:

6SK7	—1st RF Amplifier.	6SQ7	—Phase Inverter.
6SK7	—2nd RF Amplifier.	PP-6F6	—2nd audio output stage.
6K8	—1st Detector-Mixer HF Oscillator.	6H6	—Automatic Noise Limiter.
6SK7	—1st IF Amplifier.	6J5GT	—Beat Frequency Oscillator.
6SK7	—2nd IF Amplifier.	80	—Rectifier.
6SQ7	—2nd Detector, AVC, 1st stage of audio.		

Overall Range 540 kc. to 42 mc. in four bands:

1—540 kc.-1700 kc.	3—5.0 mc.-15.5 mc.
2—1.7 mc.-5.1 mc.	4—15.1 mc.-42 mc.

Separate calibrated bandspread dial for the 10, 20, 40 and 80 meter bands provides frequency meter tuning. Oscillator compensation for frequency stability.

Automatic noise limiter.

Six-step variable selectivity covering wide range from high fidelity to extreme CW crystal.

S meter calibrated in "S" and "DB" units.

Push-pull output stage furnishes 8 watts of audio.

Front panel controls: RF Gain, Selectivity Switch, Crystal Phasing, Audio Gain, Pitch Control, Main Tuning Control, Bandspread Tuning Control, ANL Switch, Hi-Lo Tone, Send-Receive Switch and BFO Switch.

External provision for: Send-Receive Terminals, Headphones, 5000 or 500 ohm output, Single Wire or Doublet Antenna.

Laboratory checked, piezo quartz crystal filter included as standard equipment.

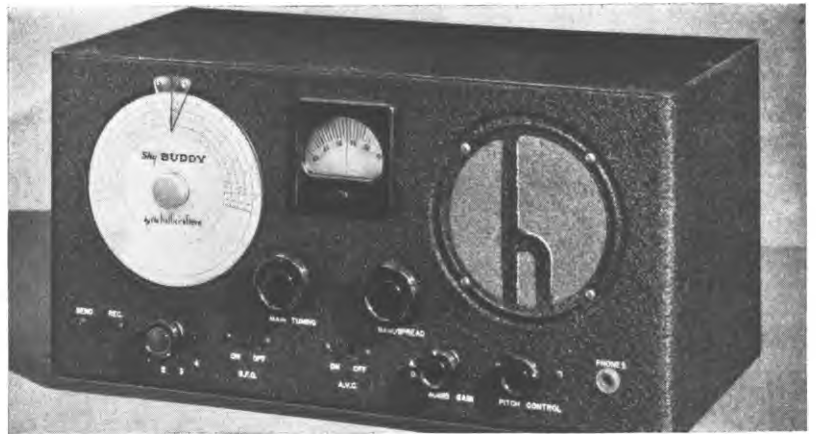
Ten-inch heavy duty PM dynamic speaker in matching metal cabinet included as standard equipment.

Dimensions of receiver cabinet only: 19½" long, 9½" high, 11⅞" deep.

110 volt 50-60 cycle AC operation. DC operation socket provided for battery or vibrapack.

Available in U.S.A. on Hallcrafters Factory-Sponsored Time Payment Plan

WORLD'S LARGEST BUILDERS OF AMATEUR COMMUNICATIONS EQUIPMENT



The SKY BUDDY

FEATURES

The new SKY BUDDY is an amateur receiver in every respect, covering everything on the air from 44 mc. to 545 kc., including the 10, 20, 40, 80 and 160 meter amateur bands. It now employs the same electrical bandspread system used in higher priced Hallicrafter models. The more important features are: Electrical bandspread, broadcast Band, BFO, AVC switch, phone jack, pitch control, built-in speaker. For operation on 110 volts 50-60 cycles AC. For operation on 110 volt AC from 6 volt DC use No. 301 Electronic Converter. Dimensions 17½" x 8½" x 8½" high.

Six tubes. Tunes 10 meter band. Electrical bandspread. Coverage and bandspread from 545 kc. to 44 mc. DC operation socket—battery or vibrapack.

The SKY BUDDY (Model S19R)—Including tubes and speaker. Shipping weight 21 lbs..... (SKYBU) **\$2950**

Extra for Univ. 110-250 volts, 25-60 cycles..... **\$500**



The SKY CHAMPION



A 9-tube Communications receiver with preselection and built-in speaker, offering a quality of performance never before available at this price.

Has all of the essential controls for good amateur reception as follows: RF gain, tone control, phone jack, AVC switch, BFO switch, send-receive switch, audio gain, pitch control and 4-position band switch. Easily adapted to 6 volt operation with a Model No. 301 Electronic Converter.

FEATURES: 9 tubes. Complete coverage (545 kc. to 44 mc.). Inertia tuning. Separate electrical bandspread. Beat frequency oscillator. Battery-vibrapack DC operation socket. Cabinet size—18½" long, 8½" high, 9¾" deep.

The SKY CHAMPION (Model S-20R)— **\$4950**
Shipping weight 32 lbs..... (SKYCN)

Extra for Univ. 110-250 volts, 25-60 cycles.... **\$500**

SM-20R carrier level meter..... **\$1000**

Available in U.S.A. on Hallicrafters Factory-Sponsored Time Payment Plan

HALLICRAFTERS COMMUNICATIONS EQUIPMENT

"The SKYRIDER 23 Has Everything"



THE SX-23 is a truly fine example of outstanding engineering design, offering for the first time compensated frequency stability, eliminating drift. The main feature of the new bandspread system is its reset accuracy. There is no bandset dial to fuss with. The same station always comes in at the same place on the dial. The band indicator harmonizes with the S-DB meter, and is direct reading. Tubes—3-6SK7, 1-6SA7, 2-6SJ7, 1-6SQ7, 1-6B8, 1-6H6, 1-6F6G, 1-80. Controls, RF gain, pitch control, tone control, selectivity switch, A.N.L. switch, band switch, send-receive switch, audio gain, crystal phasing control, main tuning control and phone jack. Cabinet size—19" long, 9 $\frac{1}{4}$ " high, 12 $\frac{1}{2}$ " deep. For operation from 110 volt 50-60 cycle AC. For 110 volt AC operation from 6 volts DC use No. 301 Electronic Converter.

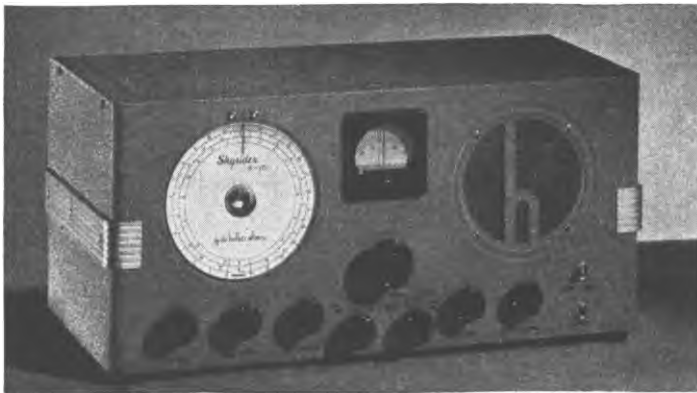
FEATURES

8 bandswitch positions. Bands 1-2-3-4 cover 545 kc. to 44 mc. continuously. Bands 5-6-7-8 are pre-set bandspread for the amateur 10, 20, 40 and 80 meter bands. ● Six-step variable selectivity. ● Improved noise limiter circuit. ● Frequency stability, both from temperature-humidity effects and from line voltage variations. ● "Venetian Blind" dial, Band indicator and S-DB meter. ● Completely shielded crystal circuit and phasing control—permeability tuned coil—with separate shield compartment for crystal.

The SKYRIDER 23 (Model SX23)—Complete with tubes and crystal. Shipping weight 56 lbs. (SKYNU) **\$11550**

The SKYRIDER 23 (Model SX23)—Complete with tubes, crystal, 10" PM 23 Speaker **\$12750**

Extra for Univ. 110-250 volts, 25-60 cycles..... **\$500**



The SKYRIDER 5-10

Covers the radio spectrum from 27 mc. to 68 mc. in two bands with a degree of sensitivity and selectivity that is unparalleled. Band 1—27 mc. to 42 mc. Band 2—40 mc to 68 mc. Sensitivity of **BETTER THAN 1 MICROVOLT**. Socket on chassis for 6 volt mobile operation with the addition of a vibrapack or other suitable power supply. IF amplification—1600 kc. Tubes used—one each 1852, 6L7, 6J5, 6K7, 6P7G, 6F6G, 6H6 noise silencer and an 80. Built-in speaker.

Terminals are provided for an SM21 meter. For opera-

tion from 110 volts, 50-60 cycles, AC. Dimensions: 18 $\frac{1}{2}$ " x 9 $\frac{1}{4}$ " x 8 $\frac{1}{2}$ " high.

The SKYRIDER 5-10 (Model S-21)—Complete with tubes and speaker. Shipping weight 34 lbs. (SKYRI) **\$6950**

SM-21 carrier level meter..... **\$1000**

For 110 to 250 volt operation, 25 to 60 cy., additional cost **\$500**

Available in U.S.A. on Hallicrafters Factory-Sponsored Time Payment Plan

WORLD'S LARGEST BUILDERS OF AMATEUR COMMUNICATIONS EQUIPMENT



**FREQUENCY MODULATION
AMPLITUDE MODULATION
145MC — 27MC (S-27)**



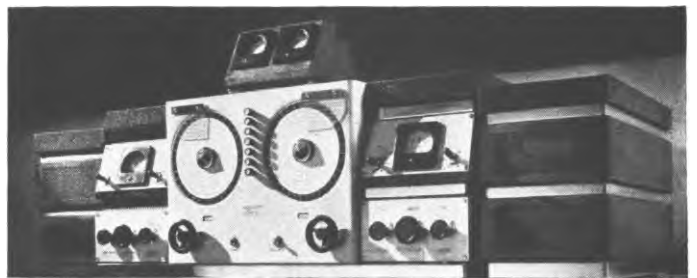
THIS Frequency Modulation communications receiver covers 3 bands: 27 to 46mc; 45 to 84mc; 81 to 145mc. Switch changing from FM to AM reception. Acorn tubes in R.F. and converter system. High gain 1852 tubes in Iron Core I.F. stages. Beam power tubes in A.F. amplifier. Controls are: R.F. gain control. Band switch. Antenna trimmer. I.F. selectivity control and

power switch. Volume control. Pitch control. Tone control. S-meter adjustment. AVC on-off switch. Send-receive switch. Phone jack. Amplitude or Frequency Modulation switch. 15 tubes. 110 volt 50-60 cycle AC. Dimensions: 19" long, 9" high, 14" deep. Model S-27. Complete with tubes. Shipping weight 75 lbs. (FREMO) **\$17500**

**The SKYRIDER
DIVERSITY**

The advantage of diversity reception is in the practical elimination of fading effects, and a considerably higher average signal-to-noise ratio than can be obtained from any single receiver. Other advantages are:

1. The reduction of fading to negligible proportions.
2. An increase of average signal strength over any single receiver.
3. Improvement of signal-to-noise ratio over any single receiver.
4. Reduction of Heterodyne Beat Note Interference.
5. A quality of reception heretofore unavailable.



The SKYRIDER DIVERSITY offers diversity reception with a single r.f. heterodyne oscillator, and audio amplifier. 6 bands covering from 545 kc. to 44 mc. 26 tubes in the complete system. Average sensitivity of better than 1 microvolt. 2 stages of RF amplification in each receiving section. Audio amplifier output of 10 watts. (Tuner only 50 milliwatts.) Prices and terms upon application.



HT-4 450 WATT

The HT-4 is intended for those who want the BEST in an efficient, high-powered rig. The carrier output is 325 watts on phone and 450 watts on CW. The HT-5 preamplifier, supplied with the transmitter, may be mounted at the operating position, controlling volume, keying and standby. Thus, once adjusted to any band the rig may be operated remotely. The transmitter may be set to any three of the 10, 20, 40, 80 and 160 meter bands. Subsequent selection of any of the three frequencies is by a switch on the front panel. Tubes used are: 1-6F6 crystal oscillator, 1-6L6 doubler, parallel RK39's-buffer-driver, 1-RK63 final amplifier, PP-2A3 drivers, PP-RK38 modulators, 2-5Z3, 2-806 rectifiers. The HT-5 preamplifier uses 1-6J7, 3-6J5, 1-80. For operation from 110 volts 50-60 cycles AC. Available for special frequencies. Write for prices.

MODEL HT-4—Complete with tubes, crystals, coils for any three amateur bands (10 and 160) and HT-5 preamplifier. Dimensions: 29" x 19" x 37" high. Shipping weight 550 lbs.....(TRACO) **\$69500**
Additional set of coils for any one amateur band (10 to 160)..... **\$2600**

Available in U.S.A. on Hallicrafters Factory-Sponsored Time Payment Plan

HALLICRAFTERS COMMUNICATIONS EQUIPMENT



The HT-8 25 WATT RADIOPHONE

FEATURES: 25 watts phone carrier. Five marine frequencies. Separate power supply. Quartz crystal controlled transmitter and receiver. Simple to operate. Precision built. 7-tube receiver. Effective squelch circuit. Handset or speaker output. No tuning required after installation. Modern design. Economical to operate. Low in purchase cost.

THE HT-8 radiotelephone transmitter-receiver is the ideal unit for any type of craft, commercial or pleasure. It is designed to operate equally well on sailboat, power cruiser, large yacht, fishing boat, tug, barge or freighter.

The transmitter covers five frequencies and the receiver six frequencies (all crystal controlled). All are in the 2000-3000 range; or, if desired, two may be in the 3000-6000 range. When the telephone handset is lifted off the hook, the receiver output automatically transfers from the built-in loud speaker to the handset. To transmit, simply press the button on the handset and speak into the microphone.

The very effective squelch circuit prevents static and noise from appearing in the loud speaker output when no carrier is present. Hence, the receiver may be left tuned to any station frequency without annoying bursts of static drumming on the ears.

MODEL HT-8—Bulkhead type. Dimensions 15" x 10" x 18" high. Shipping weight 105 lbs. Complete with tubes, separate power supply for 12, 32, or 110 volts DC as specified (all operate on 110 volt 60 cycle AC). Less crystals and installation **\$29000**
.....(TRABU)



The SKYRIDER MARINE

Specifically designed for marine service, in the range from 16.2 to 2150 meters (18.5 mc. to 140 kc.). Improved image rejection at the higher frequencies is achieved through the use of 1600 kc. IF transformers. The directly calibrated main tuning dial eliminates the use of complicated charts and tables. An efficient mechanical hand-spread with separate dial provides easy logging. Built for 110 volt AC-DC operation. Also may be operated from 6 volt battery supply with the addition of a Model No. 301 Electronic Converter. Dimensions 18½" x 9¼" x 8½" high. The SKYRIDER MARINE (Model S-22)—Complete with tubes and speaker. Ship-**\$6450**
ping weight 31 lbs.....(SKYCU)



Available in U.S.A. on Hallicrafters Factory-Sponsored Time Payment Plan

WORLD'S LARGEST BUILDERS OF AMATEUR COMMUNICATIONS EQUIPMENT



The HT-9

A NEW 100-WATT TRANSMITTER



. . . at Less Than You Could Build It Yourself

IT IS probably true that only the largest builders of amateur communications equipment, with unlimited engineering and production facilities, could produce such a transmitter at so low a price. Were you to attempt to build it yourself, the cost for parts alone would be far in excess of this price.

The HT-9 is a 5-frequency phone and CW unit, rated at 100 watts on CW and 75 watts on phone (carrier output). Coils are available for all bands from 1.7 to 30 megacycles. Exciter coils for five bands can be plugged in, pretuned, and left in the transmitter. Bandswitch, controls and meters, governing every function of the transmitter, are all on the front panel. 100% modulation with very low distortion is assured. Carrier hum is at least 40 db below 100% modulation. Any medium-level high impedance type of microphone can be used.

14 Tubes — 1-6F6 Oscillator, 1-6L6 Doubler, 1-814 Power Amplifier, 1-6J7 Audio Input Amplifier, 1-6J5 Audio Amplifier, 4-6L6G PP Parallel Modulators, 2-866 High Voltage Rectifier, 1-5Z3 Exciter Rectifier, 1-5Z3 Audio Rectifier, 1-80 Audio Rectifier. For operation from 110 volts, 50-60 cycles AC. Dimensions: 28" wide, 18½" deep, 11½" high. Shipping weight 165 lbs.

FEATURES

Any 5 frequencies in range 1.7 to 30 megacycles.

Crystals and tuning units for all circuits up to the grid of the final amplifier are plugged and tuned in for each frequency channel desired.

Antenna coil will match any resistive load from 10 to 600 ohms.

Frequency response is flat within 3 db from 100 to 7000 cycles.

MODEL HT-9—Complete with tubes, but less crystals and coils..... **\$19950**

160-80-40 meter coils (for operation on crystal frequency) each set..... **\$665**

20-10 meter coils (for operation on twice crystal frequency), each set..... **\$895**

160-80-40 meter crystals, each..... **\$480**

20 meter crystals (for 10 meter operation), each..... **\$575**

Available in U.S.A. on Hallicrafters Factory-Sponsored Time Payment Plan

WORLD'S LARGEST BUILDERS OF AMATEUR COMMUNICATIONS EQUIPMENT



HT-6
25 WATT
Phone and
CW Transmitter



YOU have a real thrill when you operate the Halli-crafter HT-6 transmitter. Using an 807 in the final stage the power output is 25 watts on most bands. Frequency range is 1.7 mc. to 60 mc.

Coils for any three bands may be plugged in, pretuned, and then switched at will by a control on the front panel, which properly connects all circuits from crystal to antenna. It is only necessary to retune the final amplifier plate. Coils are available for any amateur band, 5 to 160 meters with crystal control; or with ECO on the 160, 80, 40, 20 meter amateur bands.

A special form of oscillator keying gives a clean chirp-less signal, providing for break-in operation on CW.

Any high level high impedance mike may be used, such as an Astatic type D-104 or Shure 706-SA. Excellent voice quality with 100% modulation is assured. Output circuit is adjustable to match any resistive load of from 10 to 600 ohms.

Tube complement: 1-6L6 Osc.-dblr., 1-807 final R.F. amplifier, 1-6F5 microphone amplifier, 1-6J5 Audio amplifier, 2-6L6G modulators and 2-5Z3 rectifiers. Power drain about 120 watts CW and 225 watts phone. Size—20" long, 9" high, 15" deep. For operation on 110 volts 50-60 cycle AC.

- MODEL HT-6—Transmitter with tubes, less coils and crystals. Ship. wt. 67 lbs.. (TRANO) **\$9900**
- Coils for 160, 80, 40 or 20 meter operation, each set **\$495**
- E.C.O. unit for 160, 80, 40 or 20 meter operation for corresponding coils listed above, each **\$365**
- Set of coils for 5 or 10 meter operation on twice crystal frequency, each set..... **\$695**
- Random Frequency Crystal for 160, 80, 40 meters, each **\$480**
- Random Frequency Crystal for 20, 10 and 5 meters, each **\$575**
- Extra for 220 volt 50-60 cycle operation..... **\$750**



FREQUENCY STANDARD

The HT-7 Frequency Standard consists of a stable crystal oscillator providing either 1000 kc. or 100 kc. output, together with a 10 kc. multi-vibrator and a harmonic amplifier. A switch on the front panel selects harmonics of 1000 kc., 100 kc. or 10 kc. With output fed into any good communications receiver accurate marker frequencies at 1000 kc., 100 kc. or 10 kc. appear across the dial. The frequency of the 100 kc. crystal is adjustable over a narrow range, so that it is possible to set its frequency to zero beat with either WWV or domestic broadcast stations, and once set will maintain its frequency accurately over long periods of time. Unequaled for checking transmitter frequency, and receiver calibrations. Also for calibrating and bandsetting receivers, locating signals for skeds, and setting ECO frequency. For operation on 110 volt 50-60 cycle. Shipping weight 10 lbs. Dimensions 5½" x 8" x 7½" high.

MODEL HT-7—Complete with tubes and crystal.. (TRAFR) **\$2950**
 Extra for Univ. 110-250 volts, 25-60 cycles..... **\$500**



Available in U.S.A. on Hallicrafters Factory-Sponsored Time Payment Plan

THE HALLICRAFTERS, INC.,

H-8

NET

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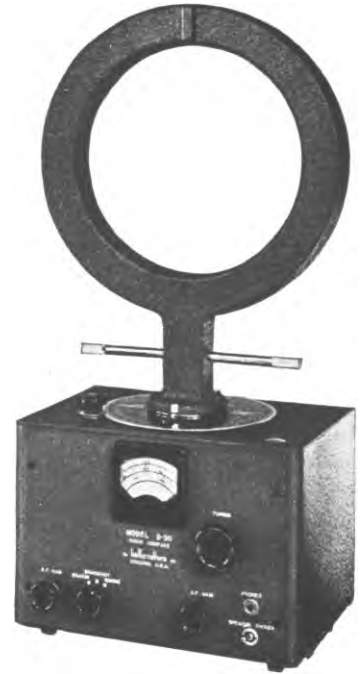
WORLD'S LARGEST BUILDERS OF AMATEUR COMMUNICATIONS EQUIPMENT

S-30 RADIO COMPASS

Know your location! The Model S-30 Radio compass and direction finder enables you to check your position against beacon, broadcast or shore radiophone stations. Coverage from 200 to 3000 kc. (1500 to 100 meters).

Sensitive headphones and tuning eye serve as indicators when taking a bearing. Normally used with a 6 volt battery—"A" and "B" battery box available when no 6 volt vibrapack power source available. Has provisions for external speaker should such an accessory be used. Substantially constructed, attractively finished aluminum cabinet houses the receiver and supports the rotatable loop antenna. Power supply is in separate cabinet.

Place a Model S-30 Radio Compass on board and have the assurance of knowing your position anytime.



GENERAL SPECIFICATIONS

FREQUENCY RANGE:

Beacon Band — 220 to 540 KC
Broadcast Band — 535 to 1340 KC
Marine Band — 1200 to 3000 KC

TUBE LINEUP:

1—6SK7 RF Amplifier
1—6K8 Mixer
1—6SK7 I.F. Amplifier
1—6SQ7 2nd Detector—A.V.C.
1—6U5G Tuning Indicator
1—6G6G Output Amplifier

CONTROLS:

Main Tuning
R.F. Gain
A.F. Gain
Band Switch
Phone Jack
Speaker headphone switch
Compass card adjustment

POWER:

Standard power unit consists of thoroughly filtered vibrapack for 6 volt battery operation.

A battery box with "A" and "B" batteries is available for emergency use or where no 6 volt battery is available.

NULL INDICATION:

A sensitive pair of headphones is supplied with the radio. A tuning eye is built in as an auxiliary indicator.

SPEAKER:

A 5" Permanent Magnet Dynamic Speaker is available as an accessory.

PHYSICAL CONSTRUCTION:

The Model S-30 Radiocompass is built in a welded aluminum cabinet with a durable wrinkle finish. A 12" loop is mounted in an aluminum casting. No magnetic materials are used wherever possible. All magnetic parts such as speaker and vibrapack are separate units for mounting at a distance from the compass itself.

DIMENSIONS:

11" wide—10⁵/₈" deep
7¹/₂" high—overall height
including loop—23¹/₂"

MODEL S-30 RADIO COMPASS:

Complete with tubes, headphones and 6 volt vibrapack power supply. **\$99⁵⁰**

NET PRICE
Separate Emergency Battery Box
complete—NET PRICE **\$19.45**

Available in U.S.A. on Hallicrafters Factory-Sponsored Time Payment Plan

WORLD'S LARGEST BUILDERS OF AMATEUR COMMUNICATIONS EQUIPMENT

The Model HT-11 Marine Radiophone is a complete moderately priced ship to shore radio transmitter and receiver. The transmitter can be operated on three frequencies in the marine band of 2000 to 3000 kc. The receiver is manually tuned and covers the standard broadcast band on range #1. Range #2 covers the marine channels. The separate noiseless vibrapack power supply is supplied for 6 or 12 volt DC operation. Other voltages can be used with suitable converter.

Ruggedly constructed—attractively finished—compact in shape—small in size—light in weight—the HT-11—12 watt Radiophone is the ideal unit for the smaller pleasure craft, wanting to cruise in safety.

PRICES START AT **\$149.50**
NET



HT-11 MARINE RADIOPHONE UNIT

12 WATT

GENERAL SPECIFICATIONS

FREQUENCY RANGE:

Transmitter—3 crystal controlled Frequencies in the range of 2000 to 3000 kc.

Receiver: Manually tuned with directly calibrated dial

Band 1 550 to 1700 kc.

Band 2 2000 to 3000 kc.

TUBE LINEUP:

Transmitter 1—6V6 Oscillator
1—807 Power Amplifier
2—6V6G Modulators

Receiver: 1—6SK7 R.F. Amplifier
1—6K8 Mixer
1—6SK7 I.F. Amplifier
1—6SQ7 2nd Detector—AVC
—1st audio
1—6K6G Audio Amplifier
2—6X5G Rectifiers

CONTROLS:

Transmitter channel switch
Receiver Band Switch
Receiver Volume control and ON-OFF switch
Receiver tuning
Transmitter Fil. OFF-ON switch
Speaker-headphone switch
Handset with Send-Receive push button

POWER SUPPLY:

The HT-11 power supply is a separate unit connected to the transmitter-receiver with a cable. The standard power pack is for 6 or 12 volt DC operation as specified. The same power supply is used for both voltages and easily converted from one to the other. Also available is a 110 volt-60 cycle AC power supply which may be used with a rotary converter for 32 or 110 volt DC operation.

PHYSICAL CONSTRUCTION:

The small sturdy metal cabinet can be easily mounted on a table or shelf. Rust proofing and corrosion protective used throughout.

DIMENSIONS:

14 $\frac{1}{8}$ " wide—8 $\frac{5}{8}$ " high—9 $\frac{1}{4}$ " deep.

MODEL HT-11 RADIOPHONE

Complete with tubes and power supply for 6 or 12 volt DC operation as specified—less crystals and installation.....NET **\$159.50**

HT-11 same as above but for 110 volt AC—..... **\$149.50**

32 or 110 volt DC converter for use with above model HT-11 **\$46.00**

Available in U.S.A. on Hallicrafters Factory-Sponsored Time Payment Plan

HALLICRAFTERS COMMUNICATIONS EQUIPMENT



The Model HT-12—50 watt Radiophone answers every marine radio need!

Ten crystal controlled transmitting and receiving channels provide communications with shore stations wherever you cruise.

Power supplies available for operation on 12-32-110 DC and 110 volt-60 cycles AC.

No switches to throw to place the transmitter on the air—all operation by voice controlled relays!

Attractively finished in machine tool gray wrinkle lacquer, the durable rust proofed cabinet is suitable for either table or bulkhead mounting—the HT-12 will provide the maximum in safety and convenience.

PRICES START AT.....NET **\$390 00**

HT-12 MARINE RADIOPHONE UNIT 50 WATT

GENERAL SPECIFICATIONS

FREQUENCY RANGE:

10 crystal controlled transmitting and receiving channels in range of 2000-3000 kc. When specified, two of these channels can be used for operation in the range of 3000 to 6700 kc.

TUBE LINEUP:

1—6L6	Oscillator
2 807	Power Amplifier
1—6J5	Input audio amplifier
4 6L6G	Modulators

RECEIVER:

1 6SK7	R. F. Amplifier
1 6SA7	Mixer
1 6SJ7	H. F. Oscillator
1 6SK7	I. F. Amplifier
1 6SQ7	2nd Detector Q.A.V.C.
1 6SF5	Audio Amplifier
1 6K6G	Output Amplifier
1 6X5G	Rectifier
2 5Z3	Rectifiers

CONTROLS:

Only controls which are used by the Operator are accessible on the front panel.
 Receiver ON-OFF Switch
 Transmitter filaments Switch
 Receiver channel Switch
 Transmitter channel Switch
 Receiver volume control
 Sneaker ON-OFF Switch
 Hand set on Hanger (transmitter is voice-controlled—no push button is needed)

POWER SUPPLY:

The power supply is a separate unit. A 110 volt-60 cycle AC power supply is standard and is furnished with a rotary converter for 32 or 110 volt DC operation. Where 12 volt DC is used, the power supply consists of a heavy duty vibrapack for the receiver and a dynamotor for the transmitter both mounted in a single unit.

PHYSICAL CONSTRUCTION:

Heavy metal cabinet suitable for table or bulkhead mounting. Corrosion protected treatment throughout. Exterior of unit finished in attractive, durable machine-tool gray wrinkle, after complete rust proofing treatment.

TUNING ADJUSTMENT:

Readily accessible controls for resonating transmitter are covered by easily removed protective face plates. Tuning adjustments are made only at time of installation.

DIMENSIONS OF RADIOPHONE:

20½" high—19¼" wide 12" deep.
 Complete with tubes, less crystals and installation but with power supply for 110 volt 50-60 cycles. **\$390 00**
NET

MODEL HT-12

Same as above but for 32 or 110 volts DC Operation as specified **\$470 00**

MODEL HT-12

Same as above but for operation from 12 volts DC **\$525 00**

Available in U.S.A. on Hallcrafters Factory-Sponsored Time Payment Plan

NET

H-11

HALLICRAFTERS' COMMUNICATIONS EQUIPMENT

FEATURES of the SKYRIDER DEFIANT

One stage of preselection. • Accurately calibrated bandspread dial throughout the amateur bands. • Frequency stability throughout a wide range of line-voltage, humidity and temperature variations. • DC operation socket—battery or vibrapack. • A brand new, highly efficient, noise limiter circuit. • Six point variable selectivity from sharp CW crystal to high-fidelity. • Terminals provided for break-in relay operation. Single-signal crystal filter standard equipment. • Meter calibrated in both S and DB units.



The SKYRIDER DEFIANT WITH FREQUENCY METER TUNING

The Skyrider Defiant offers performance that can be favorably compared with most receivers at twice the price. Every advanced feature of the entire Hallcrafters line is incorporated in this unit. Truly, it has all of the desirable features and qualities that are needed for outstanding amateur reception. Four bands cover the range from 545 kc. to 43.5 mc.; frequency meter tuning on 10, 20, 40 and 80 meter amateur bands. Tubes—3-6SK7, 1-6K8, 1-6SQ7, 1-6F6G, 1-6H6, 1-76, 1-80. Controls include RF gain, selectivity switch, crystal phasing, audio gain, pitch control, main tuning control, bandspread tuning control, A.N.L. switch, Hi-Lo tone, send-receive switch

and BFO switch. Cabinet size—19½" long, 9½" high, 10½" deep. For operation from 110 volt 50-60 cycle AC. For 110 volt AC operation from 6 volt DC use No. 301 Electronic Converter.

The SKYRIDER DEFIANT (Model SX-24)—Complete with tubes and crystal. Shipping weight **\$6950** 40 lbs. (SKYFY)

The SKYRIDER DEFIANT (Model SX-24)—With tubes, crystal and 10" PM23 Dynamic Speaker. **\$8150** Shipping weight 56 lbs.....

Extra for Univ. 110-250 volts, 25-60 cycles... **\$500**

S-29 SKY TRAVELLER



Take it with you—Use it at Home—the Model S-29 SKY TRAVELLER is truly a universal receiver. Operates on either 110 volt AC or DC or from its self-contained batteries. Here is a portable designed to communications receiver tolerances. Mounted in an attractive black crackle finished aluminum cabinet with rounded corners, the Receiver covers from 542 kc. to 30.5 mc. (553 to 9.85 meters). Self-contained antenna

with high gain coupling circuit provides truly remarkable reception throughout its tuning range. Band spreading is electrical—both RF and IF circuits permeability tuned—average sensitivity below two microvolts on all bands—one stage of preselection on all bands—improved automatic noise limiter for most satisfactory portable operation. The Model S-29 SKY TRAV-ELERNET **\$59.50**

GENERAL SPECIFICATIONS

FREQUENCY RANGE:

Band 1— 542 to 1490 kc
Band 2— 1.43 to 4.35 mc.
Band 3— 4.12 to 11.9 mc.
Band 4—11.26 to 30.5 mc.

TUBE LINEUP:

1—1T4 RF Amplifier
1—1R5 Mixer
1—1P5-GT 1st IF Amplifier
1—1P5-GT 2nd IF Amplifier
1—1H5-GT 2nd Detector, AVC, 1st audio
1—3Q5-GT Output Amplifier
1—1G4-GT Beat Oscillator
1—1G4-GT Noise Limiter
1—25Z5G Rectifier

CONTROLS:

Main Tuning
Bandspread
R.F. Gain
A.F. Gain
Band Switch
Power Switch
AVC OFF-ON Switch
BFO OFF-ON Switch
ANL OFF-ON Switch
Send-Receive—Standby Switch

CONNECTORS:

Doublet Antenna Socket
Long Antenna Socket
Phone Jack
Battery Cable with Plugs
AC/DC Outlet Cord

FEATURES:

- 1—Operates on either 110/125 volts AC or DC and in addition from its self-contained batteries.
- 2—Electrical bandspread
- 3—1.4 volt tubes used throughout
- 4—Battery life prolonged through a self-contained charging circuit
- 5—Automatic Noise limiter
- 6—Self-contained collapsible antenna which can be extended to nearly 3 feet
- 7—An RF stage used on all bands
- 8—Sensitivity below two microvolts on all bands
- 9—High gain antenna coupling circuit for maximum antenna energy transfer
- 10—Approximate battery life 100 hours
- 11—Neon lamp to indicate tubes are lighted
- 12—Permeability tuned RF and IF circuits

PHYSICAL CONSTRUCTION:

Attractive black crackle finished aluminum cabinet substantially constructed to withstand hard usage. All corners of the cabinet are rounded for convenience in carrying. The one piece aluminum chassis is so designed for the greatest rigidity consistent with the least weight.

DIMENSIONS:

7" high—8½" wide—13¼" deep
Weight including all batteries:—18 lbs.

Available in U.S.A. on Hallicrafters Factory-Sponsored Time Payment Plan



Transmitting and SPECIAL-PURPOSE TUBES

... for Performance Plus!

RCA Transmitting and Special-Purpose Tubes conform to the most exacting specifications. Components such as filaments, grids, anodes, and bases are carefully chosen for best results in terms of trouble-free performance and minimum overall cost to customer. Every tube is scrupulously tested during its manufacture. RCA Transmitting and Special-Purpose Tubes cost *less per hour of service*. Rely on them for absolute dependability.

TRANSMITTING TUBES

No.	Type	Max. Input	Amateur Net Price
203-A	Triode	220 Watts	\$10.00
211	Triode	220 Watts	10.00
800	Triode	100 Watts	10.00
801-A	Triode	42 Watts	3.45
802	Pentode	33 Watts*	3.50
803	Pentode	350 Watts	28.50
804	Pentode	150 Watts*	15.00
805	Triode	315 Watts	13.50
806	Triode	1000 Watts*	22.00
807	Beam	75 Watts*	3.50
808	Triode	200 Watts	7.75
809	Triode	100 Watts*	2.50
810	Triode	620 Watts*	13.50
811	Triode	225 Watts*	3.50
812	Triode	225 Watts*	3.50
813	Beam	360 Watts	22.00
828	Beam	270 Watts*	17.50
829	Twin Beam	120 Watts	19.50
833	Triode	1250 Watts	85.00
834	UHF Triode	125 Watts	12.50
837	Pentode	32 Watts	7.50
838	Triode	220 Watts	11.00
845	Triode	150 Watts	10.00
1623	Triode	75 Watts	2.50
1624	Beam	54 Watts	3.50
1628	UHF Triode	50 Watts	32.00

* ICAS rating. In CCS, tube is operated at somewhat lower ratings.

HALF-WAVE MERCURY-VAPOR RECTIFIERS

No.	Max. Ratings	Amateur Net Price
866	7500 Volts, 0.25 a.	\$ 1.50
866-A	10,000 Volts, 0.25 a.	2.50
872	7500 Volts, 1.25 a.	9.00
872-A	10,000 Volts, 1.25 a.	11.00

TELEVISION TUBES

No.	Description	Amateur Net Price
3AP4/906P4	3" Kinescope	\$13.75
5AP4/1805P4	5" Kinescope (Short Bulb)	22.00
5BP4/1802P4	5" Kinescope	22.00
7AP4	7" Kinescope	29.00
1847	Amateur Iconoscope	24.50
1898	3" Monoscope	24.00
2V3-G	Half-Wave, High-Vacuum Rect. (16,500 Volts, 0.012 a.)	3.00
878	Half-Wave, High-Vacuum Rect. (20,000 Volts, 0.020 a.)	11.00

TELEVISION TUBES (continued)

No.	Description	Amateur Net Price
884	Gas Triode 6.3 v. Heater	\$2.00
885	Gas Triode 2.5 v. Heater	2.00

CATHODE-RAY TUBES

No.	Screen	Amateur Net Price
3AP1/906P1	3" Green Phosphor	\$13.50
5BP1/1802P1	5" Green Phosphor	24.75
902	2" Green Phosphor	7.50
908	3" Blue Phosphor (Short Bulb)	18.00
913	1" Green Phosphor	4.00

PHOTOTUBES

No.	Description	Amateur Net Price
868	Gas Type	\$3.70
917	Vacuum type, Anode cap.	4.75
918	Gas type, High Sensitivity	4.50
919	Vacuum type, with cath. cap.	4.75
920	Twin Unit, Gas type	5.25
921	Cartridge, Gas type	2.00
922	Cartridge, Vacuum type	2.00
923	Gas type, 3 1/8" long	2.60
924	Gas type, Screw base	2.00
925	Vacuum type, 2 5/8" long	2.00
926	Cartridge, Vacuum type	3.00
927	Miniature, Gas type	3.70
928	Gas type, Non-directional	2.00
929	Vacuum type	3.00

U-H-F ACORN TUBES

No.	Description	Amateur Net Price
954	Pentode Amplifier, Detector	\$5.00
955	Triode Detector, Oscillator	3.00
956	Pentode, Super-Control Amp.	5.00
957	Triode, 1.25 v., 0.05 a. fila.	3.00
958	Triode, 1.25 v., 0.1 a. fila.	3.00
959	Pentode, 1.25 v., 0.05 a. fila.	5.00

MISCELLANEOUS

No.	Description	Amateur Net Price
VR75-30	Voltage Regulator (75 v.)	\$1.25
VR105-30	Voltage Regulator (105 v.)	1.25
VR150-30	Voltage Regulator (150 v.)	1.25
1851	High Transconductance Pentode	2.10
2050	Gas Tetrode (Max. anode ma. = 100)	3.00
2051	Gas Tetrode (Max. anode ma. = 75)	2.50

REAL HELPS!

RCA HAM GUIDE 48-page book filled with technical information on latest transmitting tubes and their circuits. Complete 'phone transmitters, c-w transmitters. More than 30 circuits, over 70 illustrations . . . Net price, **15c** **HAM TIPS—FREE** A regular news publication prepared exclusively for radio amateurs. Contains advance circuit information on popular RCA transmitting tubes, articles, illustrations, hints. Free from RCA Transmitting Tube Distributors.



NEW COMMUNICATION RECEIVER

MODEL AR-77



The AR-77 is a new 10-tube RCA General-Purpose Communication Receiver incorporating all worthwhile features to provide the highest degree of successful operation for communication purposes. Frequency coverage is 540 to 31,000 kc in 6 ranges . . . with individual coils. Bandswitching is employed. The AR-77 is designed with special emphasis on (1) signal-getting ability of the circuits, (2) accessory aids to insure readability of signals under the most adverse conditions, and (3) frequency stability.

AR-77 FEATURES

- **Highest Signal-to-Noise Ratio.** 2-to-1 signal-to-noise ratio obtained at an average sensitivity of 2 microvolts throughout range. Builds up weak signals ordinarily lost in receiver background noise.
- **Unmatched Frequency Stability.** Use of a Special Temperature-compensated trimmer condenser in the h-f oscillator circuit, an oversize power transformer to reduce heat, Polystyrene Insulation at strategic points, and a voltage-regulator tube for the oscillator and 1st detector plate supply provides the AR-77 with extreme stability of tuning. Frequency drift at 30 Mc under average conditions only 3 kc (within audio range).
- **Dual R-F Alignment.** Air-dielectric trimmers and inductance adjustment assures stable alignment, and perfect "tracking" of r-f amplifier, 1st detector, and tuning oscillator circuits for maximum sensitivity and r-f selectivity.
- **Improved Manually Adjusted Noise Limiter.** S-1 signals brought through S-4 ignition noise. Noise-limiter circuit is extremely effective in that peak noise voltage hundreds of times higher than the signal is reduced to actually appear below the signal level.
- **Variable Selectivity in 6 Steps** through use of a crystal filter. Band width: Step No. 1 (crystal out)—6 kc.; No. 2—3 kc.; No. 3—2 kc.; No. 4—500 cycles; No. 5—175 cycles; No. 6—80 cycles!
- **Improved Image Rejection.** Image ratio at 30 Mc is approximately 40 to 1 with a 50-ohm input load.
- **Uni-View Dials.** Slide shutter in each dial automatically blanks off everything except the calibrations for the range in use. Main tuning and calibration spread driven by a combined split-gear and cord drive having a tuning ratio of 18.6:1.
- **Accurately Calibrated Bandsread** for the 10-, 20-, 40-, and 80-meter amateur bands. Each calibration scale spread approximately 270° around dial. Electrical bandsread is accomplished by a special 3-gang, triple-section condenser connected in parallel with the 3-gang, double-section main tuning condenser.
- **Polystyrene Insulation** is used for high-efficiency 10- and 20-meter coil forms. High-grade ceramic insulation is used on range switch, r-f tube sockets, and tuning and trimmer condensers.
- **Latest Single-Ended Tubes.** One single-ended RCA-6SK7 is used in the preselector stage, 2 RCA-6SK7's in each of the two i-f's. Balance of the tube complement is: 1 RCA-6K8 1st detector, 1 RCA-6H6 2nd detector and noise limiter, 1 RCA-6SQ7 a.v.c. and a-f amplifier, 1 RCA-6F6 a-f power amplifier, 1 RCA-6SJ7 as b.f.o., 1 RCA-5Z4 rectifier, and 1 VR150-30 voltage regulator.

OTHER PLUS FEATURES

Antenna Trimmer to provide peak tuning of input circuit at all times; Negative Feedback in audio amplifier for high fidelity on 'phone and broadcast reception; Carrier-Level Meter calibrated in 6-db steps to "59" and to 40 db beyond; C-w Oscillator; Effective A.V.C.; Magnetite-core I-F Transformers; Diversity Reception Terminals for connecting together two AR-77's; 3 Watts of Audio Output; Standby Switch with terminals for relay; Tropic treatment of insulation.

SPECIFICATIONS

- **Power Supply** 105-125 volts, 50/60 cycles.
- **Size** 20" long x 11 $\frac{5}{8}$ " deep x 10 $\frac{1}{2}$ " high.
- **Modern Styling** Durable 2-tone gray finish with polished metal trim.
- **Shipping Weight** 57 lbs.

AR-77 COMMUNICATION RECEIVER
COMPLETE WITH TUBES AND SELF-
CONTAINED POWER SUPPLY . . .

\$139⁵⁰
NET PRICE

8-INCH SPEAKER (MI-8303)
IN MATCHED CABINET . . .

\$8⁰⁰
NET PRICE

Taylor

HEAVY

CUSTOM
BUILT

DUTY

Tubes

THE WONDER TUBES

Set A New Standard In Value
and Performance

T-40

Thousands in use throughout the world. Widely copied but quality never equalled. 40 watts plate dissipation. Fil. 7.5 V.—2.5 A. Plate 1000 V.—115 MA. Amp. Factor 25. G to P cap. 4.8 mmf. Efficient on all frequencies up to 120 MC. Easy to drive.

\$3.50

TZ-40

Zero Bias

Same general characteristics as the T-40 except the amp. factor is 62. A pair will deliver up to 225 watt Class B audio output. An extremely efficient doubler and preferred by thousands for all-around superior Class C performance.

\$3.50

Tops In Value

T-20

Considered by thousands of Amateurs as the real all-purpose tube. Easy to drive and is truly efficient on all frequencies up to 60 mc. Plate dissipation 20 watts. Fil. 7.5 V.—1.75A. Plate 750 V.—75 M.A. Amp. factor 20. G to P cap. 5.0 mmf. The greatly improved T-20 is making real records for long life.

\$2.25

TZ-20

Zero Bias

Same general characteristics as the T-20 except the amp. factor is 62. A pair will deliver up to 80 watts Class B audio output. Also recommended for efficient doubler service.

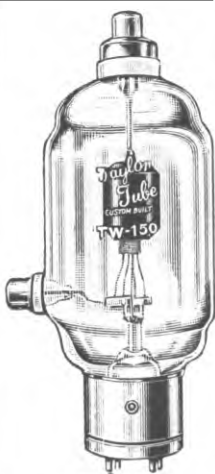
\$2.25

866 Jr.

Half-wave, Mercury Vapor Rectifier. Has plate lead through UX 4 prong Alsimag base. Fil. 2.5 V.—2.5 A. Max. RMS A.C. volts 1250. Max. D.C. current per pair (choke input) 250 MA. Intended for use as rectifiers in power supplies of from 600 to 1000 volts D.C. where the receiving type full-wave rectifiers will not stand up and where the power capabilities of the regular 866's are not necessary. The smaller size of Taylor's 866 Jrs. is another advantage in compact transmitters. Multi-strand filament and Svea metal anode.

\$1.00

Write us for
TAYLOR TUBES
new **MANUAL.**
FREE



TW-150

TW-150



The first of a new series. The ideal U.H.F. tube. 150 watts plate dissipation. Filament 10 V.—4.1A. Plate 3000 V.—200 M.A. Amp. factor 35. G to P cap. 2.0 mmf. Low driving requirements. Visible operating temperature. Puncture-proof. One piece enclosed anode give complete "Electron Control." Nonex glass—50 watt base. Available also with 5.0 V.—8.2 A. Fil. using standard UX 4 prong base. Guaranteed to stand up to 800% temporary overload. See ad in Sept. 1939 "QST."

\$15.00

Amateurs Favorite!

T-55

Continues to be one of the most popular transmitting tubes. Now greatly improved with semi-thin carbon anode and abuse-proof grid. Plate dissipation 55 watts. Fil. 7.5V.—3.0A. Plate 1500 V.—150 MA. Amp. factor 20. G to P 3.85 mmf. Very easy to drive—easy to neutralize. An ultra efficient tube for 5 and 10 meter service. Greatly outsells other tubes of the same class. Nonex glass.

\$6.00

T-21

A Taylor Beam Amplifier Tube 6 prong Alsimag base

Especially efficient as an oscillator, amplifier or frequency multiplier and desirable for mobile and portable radio transmitters. 21 watts plate dissipation. Heater 6.3 V.—0.9A. Plate 400 V.—95 MA. Amp. factor 138. Many Amateurs hailed the advent of the T-21 as it enabled them to have "100% Taylorized" rigs.

\$1.95

The New Shielded 866

Half-wave, Mercury Vapor Rectifier. Delivers all the characteristics of an 866-A at this new low price. Has complete cathode shield which insures lower heat and longer life. Fil. 2.5 V.—5A. Peak inverse 10,000 volts. Peak current 1.0 amp. max. Has multi-strand filament and Svea Metal Anode and shield. The Alsimag insulator below the plate cap increases safety and minimizes glass failures. Universally recognized as the best 866, this Taylor Tube leads in sales by a very wide margin.

\$1.50

We carry a complete stock of Taylor Tubes and always have the New Tubes as soon as they are announced.



T-40



T-55



T-20



T-21



866 Jr.



866

Taylor

HEAVY

CUSTOM BUILT

DUTY

Tubes

"More Watts per Dollar!"

203-Z

Zero Bias

300 Watts Audio in Class B

Will work with all standard 203-A type Transformers. Filament 10 volt—3.25 amp. Plate 1250 volt 175 MA. per tube. Amp. factor 85. Plate to plate load at 1250 V. for 300 W. output 7900 Ohms. Nonex Glass—Metal plate—50 watt type base. A very popular Class B Audio Tube.

\$8.00

805

Zero Bias

450 Watts Audio in Class B

Standard type Carbon Anode Zero Bias 805. Filament 10 Volt—3.25 Amp. In RF—plate 2000 Volt—200 MA. In Class B—195 MA. per tube. Amp. factor 40 to 60. G to P cap. 6.5 mmf. A fine tube for all Class C services and extremely popular as an Audio Amplifier. Nonex Glass—50 watt type base.

\$13.50

872-A

This new and greatly improved Taylor design uses a processed Carbon Anode and Shield plus a Multi-strand filament. A pair will deliver up to 2.5 Amps. at 3500 Volts D.C. Filament 5.0 Volt—6.75 Amp. Peak inverse 10,000 Volts. Peak current 5.0 Amp. Nonex Glass. Scores of Commercial Stations are creating New life records with Taylor 872-A's. A performance test will prove their superiority.

\$10.50

T-200

Amateur's "Power House" Tube

200 Watts plate dissipation. Heavy duty filament 10 volt—5.75 Amp. Plate 2500 Volt—350 MA. G to P cap. 7.8 mmf. Amp. factor 16.6. An easy to drive tube widely favored by Commercial Short Wave Stations and Amateurs. Extra heavy leads and safety type construction throughout handles serious overloads without damage. A popular type for Diathermy service. Nonex Glass.

\$21.50

OTHER TAYLOR TUBES

Diathermy Types

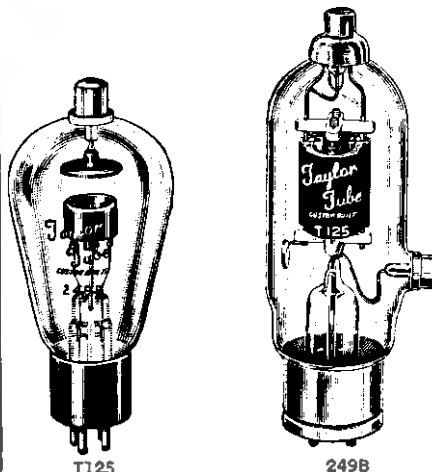
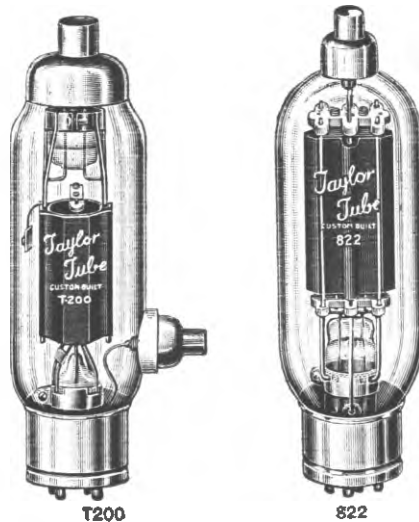
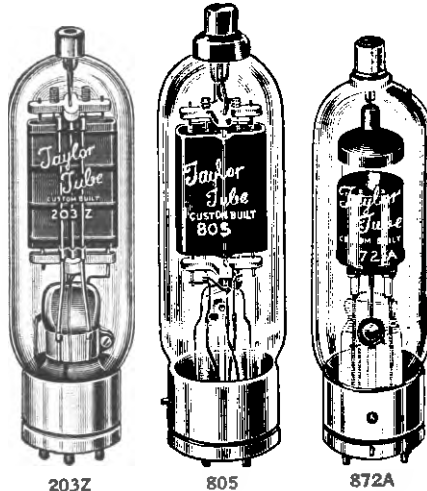
841SW	50 watts	\$7.00
211C	100 watts	12.50
303C	150 watts	14.50
HD211C	150 watts	14.50

Amateur Types

756	40 watts	3.95
HD203A	150 watts	14.50
204A	250 watts	60.00

The Taylor Manual giving full characteristics of all Taylor Tubes will be sent to you upon request.

WE RECOMMEND TAYLOR TUBES



822

700 Watts Audio in Class B

200 Watts plate dissipation. An extra heavy duty tube of the 93A type featuring a Super Carbon Anode. Filament 10 Volt—4.0 Amp. Plate 2500 Volt—300 MA. G to P cap. 13.5 mmf. Amp. factor 27. Popular for Class B Audio and used by many low powered Broadcast Stations. Also used in Diathermy service. Nonex Glass.

\$18.50

814

Same general characteristics as the 822 except Amp. factor is 12. Is favored for use in Grid Modulated Transmitters.

\$18.50

203-A

Standard Characteristic

Carbon Anode 203-A. 100 Watts Plate dissipation. Filament 10 Volt—3.25 Amp. Plate 1500 Volt—175 MA. Amp. factor 25. G to P cap. 14 mmf. Taylor 203-A's are giving satisfactory long-life service in many Commercial Stations. Have FCC approval. Nonex Glass.

\$10.00

211

Same characteristics as 203-A except Amp factor is 12.5.

\$10.00

845

Class "A" Audio Tube. 70 watts Plate Dissipation. Filament 10 Volt—3.25 Amp. Plate 1250 Volt—75 MA. Carbon Anode—Nonex Glass.

\$10.00

T-125

With Accelerating Fins

A type that gives all the advantages of a Low C tube together with the advantages of a Higher C tube—without the disadvantages of either. Plate dissipation 125 Watts. Filament 10 Volt—4.5 Amp. Plate 2000 Volt—200 MA. G to P cap. 6 mmf. Amp. factor 25. Very easy to drive. Can be operated at full rated input up to 30 Mc. Taylor's T-125's have an enviable reputation among Amateurs throughout the World. Nonex glass—50 watt type base.

\$13.50

249-B

A Heavy Duty Rectifier

Of the Half-Wave Mercury Vapor type. Has processed Carbon Anode and Shield and Multi-strand filament. In a single phase full-wave power supply, two 249-B's will deliver up to 1.25 Amp. at 3300 D.C. Volts. Filament 2.5 Volt—7.5 Amp. Peak inverse 10,000 Volts. Peak current 2.5 Amp. Approx. Volt. drop 15 per tube. Nonex Glass—UX 4 prong base. An ideal tube for 1 KW stations.

\$5.00



TRANSMITTING TUBES

AMATEUR, BROADCAST, COMMERCIAL, DIATHERMY, ELECTRONICS, FILM—SOUND

AND SO ON THROUGH THE ALPHABET OF POWER TUBE APPLICATIONS—

THIS TUBE IS THE ANSWER

UNITED VERSATILE 70-D

Increase your power with minimum cost and effort if you have been using the lower power types T-4D, T-55 or 812.

This heavy duty V70-D has same base style, and 7½ volt filament. It drives easily, and its similar inter-electrode capacities make neutralizing simple when used in place of these smaller tubes.

★NONEX means non-expansion and high melting point. To be sure a tube is made of NONEX glass, look for tungsten seal wires, rather than copper clad which is used with soft glass. The expansion coefficient of soft glass is 3 times as high as NONEX. This fixes a correspondingly lower limit of safe plate dissipation and input in all soft glass tubes.

\$7.25



VALUE COMPARISONS, V70-D

- 70 watts plate dissipation
- ★Hard glass (nonex) envelope and stem
- Heavy gauge tungsten seal wires
- SPEER graphite anode
- 300 watts plate input

MAXIMUM RATINGS PER TUBE

	R. F. Amplifier Class C		R. F. Amplifier Class C	
	Telephony		Telephony	
Eb	*CCS 1000	†ICAS 1500 volts	1250	1500 volts
Ec	—260	—260 volts	—260	—260 volts
Ib	165	170 mls	200	200 mls
Ic	40	40 mls	40	40 mls
Input	165	255 watts	250	300 watts

*CCS—Continuous commercial service.
 †ICAS—Intermittent commercial and amateur service.
 Filament: 7.5 volts—3.2 amperes.
 Amplification factor 20; Rp—7500 ohms; GM—2560 umhos.
 Interelectrode capacitance (MMF) G-P 4.5; G-K 4.5; P-K 1.75.

HIGH FREQUENCY AND REGULAR COMMERCIAL TRIODES



Triode Type	Net Price	Watts Plate Diss.	Filament		Purpose	Dimensions in Inches
			Volts	Amps.		
303A (203A)	\$10.00	100	10.	3.25	R.F. Amp. Osc. Cl. B Mod.	2 3/8 x 7 7/8
304A (204A)	Inquire	250	11.	3.85	RF Amp. Osc. Mod.	4 3/4 x 14 3/8
305D (205D)	5.00	14	4.5	1.60	Theatre Audio Amp.	2 3/8 x 4 1/2
310 (801)	3.45	20	7.5	1.25	R.F. Amp. Osc. Cl. B Mod.	2 3/8 x 5 3/8
311 (211)	10.00	100	10.	3.25	General Purpose	2 3/8 x 7 7/8
312E (212E)	Inquire	350	14.	6.25	Osc. Mod. A.F. Amp.	2 3/8 x 13 3/8
342B (242B)	15.00	85	10.	3.25	Theatre Audio Amp.	2 3/8 x 7 7/8
361A (261A)	16.00	100	10.	3.25	General Purpose	2 3/8 x 7 7/8
376A (276A)	16.00	100	10.	3.0	General Purpose	2 3/8 x 7 7/8
384D (284D)	15.00	85	10.	3.25	Theatre Audio Amp.	2 3/8 x 7 7/8
905 (805)	13.50	125	10.	3.25	R.F. Amp. Osc. Cl. B Mod.	2 3/8 x 8 1/2
930 (830)	8.75	40	10.	2.0	Osc. Mod. R.F. Amplifier	2 3/8 x 5 3/8
930B (830B)	10.00	60	10.	2.0	Osc. Cl. B Mod. R.F. Amp.	2 3/8 x 6 3/8
938 (838)	11.00	100	10.	3.25	Cl. B Mod., Osc., R.F. Amp.	2 3/8 x 7 7/8
941 (841)	4.50	20	7.5	1.25	R.F. Amp. Osc. A.F. Volt. Amp.	2 3/8 x 5 3/8
942 (842)	4.50	15	7.5	1.25	A.F. Amp., Mod.	2 3/8 x 5 3/8
945 (845)	10.00	75	10.	3.25	A.F. Amp. Mod.	2 3/8 x 7 7/8
949 (849)	Inquire	400	11.	5.	Osc. Mod. R.F. Amp.	4 3/4 x 14 3/8
949A (849A)	Inquire	500	11.	7.7	H.F. Osc., R.F. Amp., Mod.	4 3/4 x 14 3/8
949B (849B)	Inquire	300	11.	7.7	H.F. Osc., R.F. Amp., Mod.	4 3/4 x 14 3/8
HV12 (814)	18.00	200	10.	4.0	Osc., R.F. Amp.	2 3/8 x 9 1/2
HV18 (HF200)	22.50	200	10.	4.0	H.F. Osc. and R.F. Amp.	4 3/4 x 9 1/2
HV27 (822)	18.00	200	10.	4.0	Osc., R.F. Amp. Cl. B Audio	2 3/8 x 9 1/2
BW11 (304B)	12.00	50	7.5	3.25	H.F. Osc. and R.F. Amp.	2 3/8 x 6 3/8



WORLD FAMOUS UNITED MERCURY RECTIFIERS



972
 This member of the illustrious UNITED rectifier family interchanges with type 872.
 Filament volts5
 Filament current10
 Filament mountingexposed
 Plate volts (max. inv. peak).....7500
 Plate current (max. peak).....5 amps.
NET PRICE\$9.00

966
 The much praised rectifier you hear so much about. Only 5 seconds preheating. Measured minimum mercury avoids amalgams and flash-overs. Replaces 866.
 Fil. Volts2.5
 Fil. Amps.5
 Exposed Filament
 Max. Inv. Volts...7500
 Max. Peak Amps....1
NET PRICE\$1.50



967
 The grid control rectifier so popular for power supply keying and countless industrial applications. Replaces 871-F.
NET PRICE\$3.50

UNITED ELECTRONICS CO.
 42 Spring Street
 Newark N. J.

972-A
 Used widely by U. S. Government and important commercial transmitters — Replaces type 872-A.
 Filament volts5
 Filament current6.75 amps.
 Filament mountingshielded
 Plate volts (max. inv. peak).....10,000
 Plate current (max. peak).....5 amps.
NET PRICE\$11.00

966-A
 Meeting U. S. Government requirements for ample shielding and break-down test, this mercury rectifier is a world wide professional favorite. Replaces 866-A.
 Fil. Volts2.5
 Fil. Amps.5
 Shielded Filament
 Max. Inv. Volts...10,000
 Max. Peak Amps....1
NET PRICE\$2.50



UNITED tubes are used as initial equipment in HARVEY, TEMCO and many other well known transmitters.



UNITED

DIATHERMY OSCILLATOR TUBES

AMATEUR, BROADCAST, COMMERCIAL, DIATHERMY, ELECTRONICS, FILM—SOUND

AND SO ON THROUGH THE ALPHABET OF POWER TUBE APPLICATIONS—

Ever since the electronic tube appeared to displace old spark-gap diathermy, UNITED has worked hand in hand with the leading therapy instrument designers. In consequence of this great co-operative research, UNITED radio-therapy oscillators and rectifiers are used by the majority of short wave generator manufacturers.

These tubes are specifically designed for heavy duty use in these self excited oscillator circuits, in which general purpose tubes cannot properly be applied.

Accurate replacement of tubes can most readily be made by selecting the proper UNITED types from the tables below.

RENEWAL TUBE INDEX FOR STANDARD MACHINES

(If machine is not listed, replace tubes in accordance with guide at bottom of this page)

Manufacturer	Model	United Tubes	Manufacturer	Model	United Tubes
Adlanco	Portable	2 type 311T	Fischer of Glendale	Clinic	{2 type 311CT, 2 type 966
Barr	SW15	2 type 311CT	"	Console	{2 type 311CT, 2 type 966
Beck Lee	1205 & 1206	2 type 311T	"	F-99	2 type 311CT
Bristow	FP-35 & FP-12	2 type 311CT	"	102A	2 type 311CT
Broper	NP	{2 type 311CT, 2 type 966	High Tension International	RF1 and RF5	2 type 311T
Birtcher	Challenger, models 900, 960, 970, 980, and 990	{2 type 311CT, 2 type 966	Maoradian	Brevatherm	2 type 311CT
"	Crusader #500 (Serial numbers over 63401)	2 type CV11	MacIntosh	Model C	2 type HV12
"	Viking #550	2 type CV11	Nassau	All models	2 type 311T
"	Surgical #3000	2 type CV11	Rose	CW1, CW2, CW3	2 type 311T,
Burdick	Triplex	2 type HV18	"	CW4, CW5	2 type HV18
"	Magnetherm	2 type FV20	"	CW6	2 type 311T
"	SWD 50	2 type 311T	"	CX1	2 type HV18
"	SWD 5	2 type 952	"	CX2	{2 type HV18, 2 type 966
Cameron	Cauteradio	1 type 930	"	C-U	2 type 311T
De Forest	Models K, A, B, C, E, L, R250, R300, D300, LR300	{2 type 311CT, 2 type 966	"	Tube-Gap Surgical	2 type 311T
"	Models NE, D400, R400, LL, M Console and B1-Wave	{2 type HV18, 2 type 966	Sanitex	S1	1 type HV27
"	Thermodyne	{1 type FV20, 2 type 966	"	S2	2 type 311CT
Denmark	SWF	2 type 311CT	"	S3	{2 type FV20, 2 type 966
"	ENT	2 type 303-U	"	S4	{2 type FV20, 2 type 966
"	HFP	2 type HV12	"	S10	2 type 311CT
Falconer	Portable 6	2 type 311CT	Scherco	Portable 100	2 type 311T
Fischer of Glendale	#106C	2 type 311CH	"	Portable 200	2 type 311T
"	#114A	2 type HV18	"	2000	{2 type 311T, 2 type 966
"	Portable	{2 type 311CT, 2 type 966	Termo	T-2 B	2 type 311CT
			"	R-4	{2 type 311CT, 2 type 966
			"	R-6	{2 type FV20, 2 type 966
			"	R-7	{2 type HV18, 2 type 966
			"	P-14	1 type HV27



Replace Worn Out Tubes With UNITED Types In Accordance With Following Guide



203 H	replaced by	UNITED 303U
211 C	replaced by	UNITED 311T
211 D	replaced by	UNITED 311CT
211 H	replaced by	UNITED 311T
211 C	replaced by	UNITED 311CH
303 C	replaced by	UNITED 303U
814	replaced by	UNITED HV 12
822	replaced by	UNITED HV 27
830	replaced by	UNITED 930
852	replaced by	UNITED 952
866	replaced by	UNITED 966

C 455	replaced by	UNITED 930
FP 195	replaced by	UNITED 952
FP 197	replaced by	UNITED 311T
FP 252A	replaced by	UNITED FV 20
FP 285	replaced by	UNITED 311CT
HD 211	replaced by	UNITED 311CH
HF 200	replaced by	UNITED HV 18
T 200	replaced by	UNITED HV 18
WL 195	replaced by	UNITED 952
WL 211	replaced by	UNITED 311T
WL 460	replaced by	UNITED HV 18



COMPLETE TECHNICAL BULLETIN DESCRIBING ALL ABOVE TUBES WILL BE SENT UPON REQUEST

NET PRICES

Type	Net Price	Type	Net Price	Type	Net Price	Type	Net Price
311T	\$16.00	FV-20	\$17.50	HV-12	\$18.00	930	\$ 8.75
311CT	16.00	HV-18	22.50	HV-27	18.00	303U	18.00
311CH	18.00	952	16.40	CV-11	10.00	966	1.50

See other pages in this catalog for replacement condensers, resistors, insulators, switches, etc., needed for servicing short wave diathermy machines.

GAMMATRON

offers a
Beam Pentode

TYPE
24

The U.H.F. Tube
PRICE \$3.50

TYPE
54

Easy to Drive
PRICE \$6.75

TYPE
254

Easy to Neutralize
PRICE \$12.50

TYPE
354

Now Greatly
Improved Design
PRICE \$24.50



Power Output,
watts 225
Plate Dissipation,
watts 75
Maximum Plate
volts 2000
Maximum Plate
M. A. 150
Screen,
volts 300
Filament,
volts 5.0
Filament,
Amps. 7.5

TYPE
257

PRICE \$22.00

Gammatron offers the 257 Beam Pentode, a tube of advanced design using Tantalum elements, eliminating insulators and "getter." It offers high voltage and power capabilities, suppressor grid modulation and requires very low driving power, no neutralization and low screen current.

Other Gammatrons of higher power
to 5 KW. Write for complete data.

HEINTZ AND KAUFMAN
SOUTH SAN FRANCISCO LTD. CALIFORNIA U.S.A.

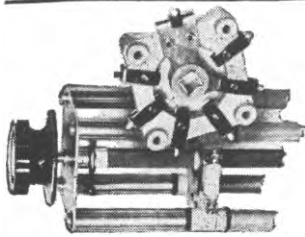


GAMMATRON TUBES

TRIODES

TUBE TYPE NO.	24	54	254	354A*	354C	354D	354E	354F	654	1054	1554	279-A 2054-A	3064
<i>Recommended Applications:</i>													
Class 'C' R.F. Amplifier...	●	●	●	●	●	●	●	●	●	●	●	●	●
Class 'C' R.F. Multiplier...	●	●	●	●	●	●	●	●	●	●	●	●	●
Class 'B' R.F. Linear Amp.	●	●	●	●	●	●	●	●	●	●	●	●	●
Class 'B' A.F. Modulator...	●	●	●	●	●	●	●	●	●	●	●	●	●
Grid Modulated R.F. Amp.	●	●	●	●	●	●	●	●	●	●	●	●	●
Class 'A' Audio Amplifier.	●	●	●	●	●	●	●	●	●	●	●	●	●
Crystal Oscillator	●	●	●	●	●	●	●	●	●	●	●	●	●
Diathermy	●	●	●	●	●	●	●	●	●	●	●	●	●
<i>Normal Plate Dissipation, Watts</i>	25	50	100	150	150	150	150	150	300	750	1000	1000	1500
<i>Aver. Amplification Constant</i>	25	27	25	9	14	22	35	50	22	13.5	14.5	10	20
<i>Maximum Ratings:</i>													
Plate Volts	1500	2000	3000	4000	4000	4000	4000	4000	4000	6000	6000	3000	5000
Plate M.A.	75	150	200	300	300	300	300	300	600	1000	1300	800	2000
Grid M.A.	30	30	40	50	50	55	60	75	100	125	250	200	500
<i>Filament:</i>													
Volts	6.3	5.0	5.0	5.0	5.0	5.0	5.0	5.0	7.5	7.5	11.0	10.0	14.0
Amperes	3.0	5	7.5	10	10	10	10	10	15	22	22	22	45
<i>Maximum Frequency:</i>													
Full ratings, Mc.	100	100	50	30	30	30	30	30	20	15	15	15	15
<i>Maximum Power Output, Single Class Tube "C" R.F.</i>	89	210	450	700	750	700	700	700	1400	3000	4000	2000	5300
<i>Maximum Power Output, Two Tubes Class "B" Audio (2 1/2% Harmonic Distortion)</i>	25	200	450	630	650	690	690	725	1350	3500	4500	4000	7000
<i>F.C.C. Broadcast Ratings:</i>													
High Level Modulation	..	50	100	250	250	250	250	250	500	..	1000	750	2500
Low Level Modulation	..	..	..	50	50	50	50	50	125	..	250	500	500
Grid Modulation	..	..	..	50	50	..	..	..	100	..	250	..	500
<i>Interelectrode Capacities:</i>													
C g-p u.u.f.	1.7	1.9	3.4	4	4	4	4	4	5.5	4.5	11	18	15
C g-f u.u.f.	2.5	1.9	3.3	9	9	9	9	9	6.2	6.0	15.5	15	25
C p-f u.u.f.	0.4	0.2	1.1	1	1	1	1	1	1.5	.8	1.2	7	2.5
<i>Physical:</i>													
Length, inches	4 1/2	5 1/4	7 1/4	8 1/4	8 1/4	8 1/4	8 1/4	8 1/4	10 3/8	16 1/2	18	21 1/8	30 1/4
Diameter, inches	1 1/2	2	2 1/2	3	3	3	3	3	4	6	6	6	9
Base	Small UX	STD. UX	50 Watt	50 Watt	50 Watt	50 Watt	50 Watt	50 Watt	50 Watt	Special	HK255	W.E.Co.	HK255
Weight	1 1/4	2 1/2	8 1/2	9	9	9	9	9	14	45	56	86	200
NET PRICE	\$3.50	\$6.75	\$12.50	\$24.50	\$24.50	\$24.50	\$24.50	\$24.50	\$75.00	\$175.00	\$225.00	\$300.00	\$395.00

* Type 354 is supplied in either high frequency style (grid terminal on side of envelope) or standard style (grid terminal on base). When no specification is made high-frequency style will be supplied.



892—SIX-POSITION BAND SWITCH

892-1	Ceramic Wafer, complete, with gaskets	\$3.00
892-2	Index Head, less knob	3.00
892-3	Ceramic Drive Shaft, Length, 3 inches	.60
892-4A	Bakelite Drive Shaft, Length, 3 inches	.15
892-4B	Bakelite Drive Shaft, Length, 6 inches	.30
892-5	Dural Spacer and Stud, each	.25
892-6	Drive Shaft Coupling	.10

- WILL HANDLE 1 KW. R.F.
- VERSATILE APPLICATION
- NICKEL SILVER CONTACTS
- ALSIMAG INSULATION
- LOW LOSS-RELIABLE

RECTIFIERS

TYPE	263	872-A	869-A
Max. Inverse Volts	10,000	10,000	10,000
Max. Peak Amps.	3	7.5	20
Average Amps.	.350	1.5	4
Base	50 watt	50 watt	3 Pin Jumbo
Form	High Vacuum	Mercury Vapor	Mercury Vapor
Fil. Volts	5.0	5.0	5.0
Fil. Amps	10.0	6.5	18.0
Net Price	\$12.75	\$11.00	\$30.00

\$125.00

HEINTZ AND



KAUFMAN

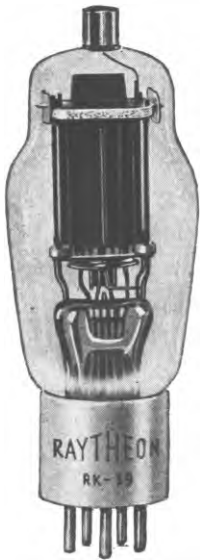
SOUTH SAN FRANCISCO

LTD.

CALIFORNIA U.S.A.

RAYTHEON RK

Amateur TUBES



Raytheon High Efficiency Beam Power Types

RK39* and RK66*
Cathode Type Quick Heating
6.3v Heater 6.3v Filament
35 Watts output—low drive
Price—either type . . . \$3.50

The RK39 — one of the most popular Raytheon Transmitting types—is suitable for practically all amateur classes of service. Highest quality parts are used throughout resulting in exceptional performance. This tube is now standard in many commercial transmitters requiring the utmost dependability. Recently developed for mobile use, the RK66 duplicates the fine characteristics and performance of the RK39 but has an efficient, long life, quick heating filament.



Raytheon Tubes for Radio Control of Models

Transmitter	Receiver
RK34*	RK62*
Price \$3.50	Price \$3.50

The combination of these two types is ideal for remote control of model airplanes, boats, etc. Even with battery operation at less than full ratings the RK34 will provide sufficient output to operate the RK62 receiver over an appreciable distance.

One type RK62 in our recommended super-regenerative circuit will provide sufficient power gain to operate a relay without additional amplifier tubes.

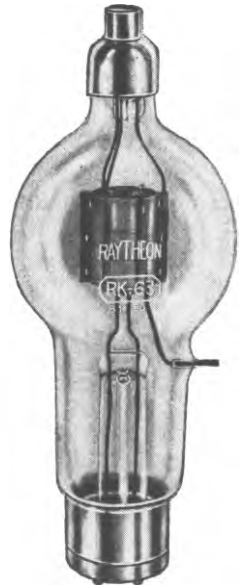
Raytheon Heavy Duty Tantalum Element Types

RK63*	RK65*
Triode	Tetrode
525 Watts output	510 Watts Output
Price \$22.00	Price \$34.50

These two exceptional types are designed for higher power applications requiring long life and dependability. The tantalum elements and rigid exhaust schedules assure gas free operation under all conditions while low capacities, hard glass bulbs and ceramic bases aid in providing efficient results at ultra high frequencies.

Maximum results are obtained from the RK63 with but 17 watts drive but for maximum power gain the RK65 is recommended with only 6 watts drive required. This is particularly advantageous in applications requiring the fewest number of tubes in the rig.

These tubes may also be used as oscillators and as Class B amplifiers.



Raytheon High Vacuum Full Wave Rectifier

RK60*
600 volts 250 ma.
Price \$2.75

Specially designed to furnish power for 2 type RK39 or similar types. Applicable to all types of service particularly where operation is required under temperature conditions unsuitable for mercury vapor tubes.



A LOW-COST RECTIFIER OF CHARACTERISTIC RAYTHEON QUALITY*

THE 866 AS
RAYTHEON
BUILDS IT!



One dollar and fifty cents never bought so much in a radio tube. Regardless of the price, our engineers had to build real performance into this 866—because it carries the name RAYTHEON. Save with safety. Ask your dealer for RAYTHEONS. They cost no more, but they're worth a lot more to you. Note the new higher ratings.

RAYTHEON HEARING AID TYPES

Number	Net Price	Type	FILAMENT			Purpose	RATED VOLTAGES		
			Volts	Amps.			Plate	Grid	Ser. Grid
CK501—CK501X	\$3.00	Pentode	1.25	0.033	Oxide	Hearing Aid	30	0	30
CK502—CK502X	\$3.00	Pentode	1.25	0.033	Oxide	Hearing Aid	30	0	30
CK503—CK503X	\$3.00	Pentode	1.25	0.033	Oxide	Hearing Aid	30	0	30
CK504—CK504X	\$3.00	Pentode	1.25	0.033	Oxide	Hearing Aid	30	0	30
CK505—CK505X	\$3.00	Pentode	.625	0.030	Oxide	Hearing Aid	30	0	30

*SEE OTHER SIDE OF THIS PAGE FOR DETAILED DATA

DEPENDABLE RAYTHEON QUALITY

HIGH GAIN, LOW GRID-PLATE CAPACITY MULTI-GRID TRANSMITTING TUBES were first developed and manufactured by Raytheon. The RK-25, RK-39, RK-65 and RK-66 are all tubes of advanced design in this class. The RK-34, RK-38, RK-63 and RK-65 are now widely used in amateur, commercial and diathermy U.H.F. equipment. The

RK-62 is a U.H.F. gas triode used in radio controlled model planes and boats. The RK-60 and the 10,000 volt 866 represent real value in low price rectifier tubes. Raytheon has manufactured many million more gaseous rectifier tubes than any other company in the world.

IMPORTANT CHARACTERISTICS...RAYTHEON AMATEUR TUBES

No.	NET PRICE	TYPE	FILAMENT		PURPOSE	RATED VOLTAGES				POWER		
			Volts	Amps.		Plate	Grid	Ser. G.	Supp. G.	Pl. Diss.	Output	
RK-11	\$2.50	Triode.....	6.3	3.0	Thor.	Osc.-Rf. Amp.	750	-120			25W	55W
RK-12	\$2.50	Triode.....	6.3	3.0	Thor.	Class B Mod.	750	0			25W	100W*
RK-20A	\$15.00	Rf. Pentode..	7.5	3.25	Thor.	Osc.-Rf. Amp.	750	-100			25W	55W
						Osc.-Rf. Amp.	1250	-100	300	0	40W	64W
						Osc.-Rf. Amp.	1250	-100	300	+45	40W	84W
						Supp. Mod. Phone	1250	-100	300	-45	40W	21W
						Osc.-Rf. Amp.	500	-90	200	0	10W	13W
RK-23	\$4.50	Rf. Pentode..	2.5	2.0	K	Osc.-Rf. Amp.	500	-90	200	+45	10W	22W
RK-24	\$2.25	Triode.....	2.0	0.12	Oxide	Supp. Mod. Phone	500	-90	200	-45	10W	6.0W
						U. H. F. Osc.	180	-45			1.5W	2.0W
RK-25	\$3.95	Rf. Pentode..	6.3	0.9	K	CHARACTERISTICS SAME AS RK-23						
RK-28A	\$28.50	Rf. Pentode..	10.0	5.0	Thor.	Osc.-Rf. Amp.	2000	-100	400	0	125W	200W
						Osc.-Rf. Amp.	200	-100	100	+45	125W	250W
						Supp. Mod. Phone	2000	-100	400	-45	125W	60W
RK-31	\$10.00	Triode.....	7.5	3.0	Thor.	Class B Mod.	1250	0			40W	190W*
						Rf. Amp.	1250	-80			40W	190W
RK-34	\$3.50	Dual Triode.	6.3	0.8	K	Osc.-Rf. Amp.	300	-36			10W	16W*
RK-37	\$6.95	Triode.....	7.5	4.0	Thor.	Class B. Mod.	300	-15			10W*	13W*
						Osc.-Rf. Amp.	1500	-130			50W	122W
RK-38	\$13.50	Triode.....	5.0	8.0	Thor.	Class B. Mod.	1250	-35			50W	200W*
						Osc.-Rf. Amp.	2000	-200			100W	225W
RK-39	\$3.50	Beam Type..	6.3	0.9	K	Class B. Mod.	2000	-52			100W	330W*
						Osc.-Rf. Amp.	600	-90	300		25W	36W
RK-41	\$3.50	Rf. Tetrode..	2.5	2.4	K	CHARACTERISTICS SAME AS RK-39 SHOWN ABOVE						
RK-42	\$1.10	Triode.....	1.5	.06	Oxide	Af. Amp.	180	-13.5				
RK-43	\$1.50	Dual Triode..	1.5	.12	Oxide	Osc. Rf. Amp.	135	-20				
RK-47	\$17.50	Beam Type..	10	3.25	Thor.	Osc.-Rf. Amp.	1250	-70	300	CT	50W	120W
RK-48A	\$27.50	Beam Type..	10	5.00	Thor.	Osc.-Rf. Amp.	2000	-100	400	CT	100W	250W
						Class B Rf. Amp.	2000	-35	400	CT	100W	60W
RK-49	\$1.25	Beam Type..	6.3	0.9	K	Osc.-Rf. Amp.	400	-50	250	CT	21W	25W
						Rf. Tetrode..						
RK-51	\$6.95	Triode.....	7.5	3.75	Thor.	Osc.-Rf. Amp.	1500	-250			60W	170W
RK-52	\$6.95	Triode.....	7.5	3.75	Thor.	Class B. Mod.	1250	0			62.5W	250W*
						Osc.-Rf. Amp.	1500	-120			60W	135W
RK-56	\$3.00	Beam Type..	6.3	0.55	K	Osc.-Rf. Amp.	300	-40	300		8W	12.5W
						Rf. Tetrode..						
RK-37	\$13.50	Triode.....	10.0	3.25	Thor.	Osc.-Rf. Amp.	1500	-105			125W	215W
RK-59	\$4.50	Dual Triode..	6.3	1.0	Oxide	Class B. Mod.	1500	-16			125W	370W*
						Osc.-Rf. Amp.	500	-60			15W*	32W*
RK-60	\$2.75	Full W. Rect.	5.0	3.0	Oxide	Class B. Mod.	500	-17			15W*	30W*
						High Vacuum-61 V. Drop-750 V. R.M.S. per anode. Output Current.					250 MA.	
RK-62	\$3.50	Gas Triode..	1.4	0.05	Oxide	Det. Thyatron.	45					
RK-63	\$22.00	Triode.....	5.0	10.0	Thor.	Osc.-Rf. Amp.	3000	-200			200W	525W
						Class B. Mod.	3000	-60			200W	800W
RK-64	\$3.50	Rf. Pentode..	6.3	0.5	Oxide	Osc.-Rf. Amp.	300	-30	100	+30	6W	10W
						U. H. F.	3000	-100	400		215W	510W
RK-65	\$34.50	Tetrode.....	5.0	14.0	Thor.							
RK-66	\$3.50	Fil. Type....	6.3	1.5	Thor.	Instant heating R.F., Amp., Doubler, Osc.	600	-60	300		30W	40W
866	\$1.50	Half W. Rect.	2.5	5.0	Oxide	Mercury Vapor Max. Inverse Peak 10000v. Peak Current 1.0A.						
868A	\$2.50	Half W. Rect.	2.5	5.0	Oxide	Mercury Vapor Max. Inverse Peak 10000v. Peak Current 1.0A.						
872A	\$11.00	Half W. Rect.	5.0	10.0	Oxide	Mercury Vapor Max. Inverse Peak 10000v. Peak Current 5.0A.						
RK-1851	\$2.10	Pentode.....	6.3	0.45	K	Television Amp.	300	-2	150			
RK-1852	\$1.85	Pentode.....	6.3	0.45	K	Television Amp.	300	-2	150			
RK-1853	\$1.85	Pentode.....	6.3	0.45	K	Television Amp.	300	-3	200			

*Indicates value for Two Tubes.



RAYTHEON

USE RK TUBES FOR THE MOST OUTPUT PER DOLLAR OVER THE LONGEST PERIOD OF TIME

AMPEREX

GRAPHITE ANODE TRANSMITTING TUBES

FOR BROADCASTING, DIATHERMY, PHYSIOTHERAPY, AMATEUR AND INDUSTRIAL APPLICATIONS

Even cursory inspection will show how AMPEREX tubes differ from the mere adaptations of conventional tube types . . . Exclusive engineering developments and radical design refinements are incorporated in the structure of these tubes and reflected in their superior performance.

So universal has been the recognition of the merits and efficiency of these tubes that now more than 70% of all diathermy ultra short wave generators are equipped with AMPEREX tubes and thousands more are in operation in almost every country in the world . . . in broadcast, communication, amateur and industrial apparatus where they have replaced more costly or less efficient tubes.

HF-100



An ultra-high, normal R. F. power amplifier and oscillator and class B audio amplifier or modulator.

The HF-100 is one of a distinctive group of low voltage high current tubes, an original development of the AMPEREX ENGINEERING LABORATORIES. It is in addition characterized by an extraordinary high ratio of transconductance to interelectrode capacitance, a characteristic which is responsible for its outstanding efficiency in ultra-high frequency circuits.

GENERAL CHARACTERISTICS

Filament: Voltage 10-10.5
Current 2 amperes
Amplification Factor 23
Grid to Plate Transconductance @ 100 ma. 4200
Direct Interelectrode Capacitances:
Grid to Plate 4.5 uuf
Grid to Filament 3.5 uuf
Plate to Filament 1.4 uuf

Net Price \$12.50

HF-200



High and normal R. F. power amplifier, oscillator, class B modulator.

The HF-200 is another of the highly proficient ultra-high frequency generators of original AMPEREX design and development. The outstanding features of low voltage high current and a high ratio of transconductance to interelectrode capacitance are also properties of this tube.

GENERAL CHARACTERISTICS

Filament: Voltage 10-11 volts
Current 3.4 amperes
Amplification Factor 18
Grid to Plate Transconductance @ Plate Current of 150 ma. 5000 micromhos
Direct Interelectrode Capacitances:
Grid to Plate 5.8 uuf
Grid to Filament 5.2 uuf
Plate to Filament 1.2 uuf

Net Price \$24.50

R. F. power amplifier, oscillator, class B modulator.

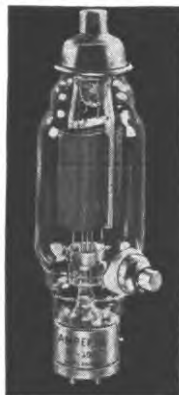
The HF-300 has found favor with many broadcasters and transmitter designers as a substitute for the 204A. A study of the operational data will disclose its superiority, in many classes of service, to the latter tube. It also, like the HF-100 and HF-200, is an efficient ultra-high frequency generator and possesses the characteristic common to AMPEREX designed tubes, of a high ratio of transconductance to interelectrode capacitance.

GENERAL CHARACTERISTICS

Filament: Voltage 11-12 volts
Current 4 amperes
Amplification Factor 23
Grid to Plate Transconductance @ 150 ma. 5600 micromhos
Direct Interelectrode Capacitances (App.):
Grid to Plate 6.5 uuf
Grid to Filament 6.0 uuf
Plate to Filament 1.4 uuf

Net Price \$35.00

HF-300



Low Distortion zero-bias class B amplifier and modulator, high efficiency R. F. frequency multiplying power amplifier, conventional R. F. power amplifier.

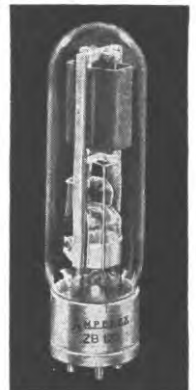
The ZB-120 is an exclusive AMPEREX development. In common with other tubes of original AMPEREX design it is a low voltage high current type and possesses a high ratio of transconductance to interelectrode capacitance. Although it approaches nearer the ideal in a zero-bias class B tube it is also a highly efficient performer in many other classes of service.

GENERAL CHARACTERISTICS

Filament: Voltage 10-10.5 volts
A.C. or D.C.
Current 2 amperes
Amplification Factor 90
Grid to Plate Transconductance @ 120 ma. 5000 micromhos
Direct Interelectrode Capacitances:
Grid to Plate 5.2 uuf
Grid to Filament 5.3 uuf
Plate to Filament 3.2 uuf

Net Price \$10.00

ZB-120



SEE REVERSE SIDE FOR COMPLETE LISTING AND NET PRICES

AMPEREX

AIR-COOLED VACUUM TUBES

866



MERCURY VAPOR RECTIFIER

GENERAL CHARACTERISTICS

Filament: Voltage	2.5 volts
Current	5.0 amperes
Type of filament	Exposed (coated)
Maximum inverse volts	7500
Average plate current	0.2 amperes
Peak plate current	0.6 amperes
Tube voltage drop	15

Net Price **\$1.50**

801



AUDIO FREQUENCY AMPLIFIER AND MODULATOR

GENERAL CHARACTERISTICS

Filament: Voltage	7.5 volts
Current	1.25 amperes
Class A operation	
D.C. Plate	600 volts
Grid	-55 volts
Plate current	30 mills
Plate Amplif. Constant	8
Plate resistance	4300 ohms
Mutual conductor	1840 micromhos
Undistorted power output	3.8 watts
Class B operation	
2 tubes	
Max. D.C. Plate	600 volts
Max. D.C. Plate Current	70 mills
Grid	-75 volts
Effective load resistance	10000 ohms
Power output	45 watts

Net Price **\$3.25**

AIR COOLED THREE ELECTRODE VACUUM TUBES

TYPE	PRICE	CODE	Fil. Voltage	Fil. Current Amps.	Max. Plate Dis. Watts
203A	\$10.00	A Beech	10.0	3.25	100
205D	5.00	A Elm	4.5	1.6	15
211	10.00	A Fir	10.0	3.25	100
211B	17.50	A Redwood	10.5	3.25	120
211C	17.50	A Cedar	10.0	3.25	120
211D	15.00	A Ash	10.0	3.25	100
211H	17.50	A Oak	10.0	3.25	120
242A	12.50	A Walnut	10.0	3.25	85
242B	12.50	A Cypress	10.0	3.25	100
242C	15.00	A Amber	10.0	3.25	100
261A	17.50	A Sassafras	10.0	3.25	120

TYPE	PRICE	CODE	Fil. Voltage	Fil. Current Amps.	Max. Plate Dis. Watts
264B	\$1.75	A Cherry	1.5	.3	
800	10.00	A Holly	7.5	3.25	50
805	13.50	A Locust	10.0	3.25	125
830	8.75	B Plum	10.0	2.0	40
830B	10.00	A Spruce	10.0	2.0	60
838	11.00	A Currant	10.0	3.25	120
841	3.25	A Maple	7.5	1.25	20
842	3.25	A Willow	7.5	1.25	20
845	11.00	A Hemlock	10.0	3.25	100
852	16.40	A Dogwood	10.0	3.25	100
864	1.50	A Tulip	1.1	.25	

MERCURY VAPOR RECTIFIERS

TYPE	PRICE	CODE	Fil. Voltage	Fil. Curr. Amps.	Peak Inverse Voltage	Peak Plate Current Amps.	
249B	\$10.00	A Laurel	2.5	7.5	7500	1.5	Shielded Filament
258B	9.85	A Bayberry	2.5	7.5	7500	1.5	Shielded Filament
267B	23.00	A Lily	5.0	6.75	7500	2.5	Shielded Filament
353A	17.50	A Chestnut	5.0	6.75	10000	2.5	Shielded Filament
575A	35.00	A Magnolia	5.0	10.0	15000	6.0	Shielded Filament
866A	2.50	A Basswood	2.5	5.0	10000	1.0	Shielded Filament
872	9.00	A Cottonwood	5.0	10.0	7500	2.5	
872A	11.00	A Gum	5.0	7.5	10000	5.0	Shielded Filament

GAS FILLED RECTIFIERS

TYPE	PRICE	CODE	Fil. Voltage	Fil. Curr. Amps.	D. C. Voltage	OUTPUT D. C. Curr. Amps.
2 Amp.	\$4.00	S Moss	2.0	12.0	75	2
6 Amp.	6.00	S Iris	2.2	18.0	100	6
15 Amp.	13.00	S Rose	3.0	30.0	75	12



TRANSMITTING TUBES



Priced Low Unsurpassed in Value

● General Electric has designed and built tubes to meet the most exacting requirements on land and sea and in the air for more than 27 years. G.E. on a transmitting tube assures you of long, dependable service at low cost. Bulletin GEA-3315 lists the complete G-E transmitting-tube line, together with technical data and prices. Ask for a copy.

NET PRICES

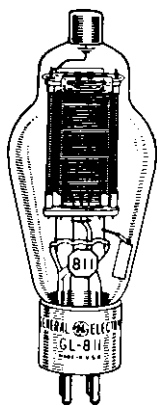
GL-203A	\$10.00
GL-211	10.00
GL-800	10.00
GL-801	3.45
GL-802	3.50
GL-803	28.50
GL-805	13.50
GL-806	22.00
GL-807	3.50
GL-809	2.50
GL-810	13.50
GL-811	3.50
GL-812	3.50
GL-813	22.00
GL-814	17.50
GL-833	85.00
GL-837	7.50
GL-838	11.00
GL-845	10.00
GL-860	32.50
GL-866	1.50
GL-866A	2.50
GL-872	9.00
GL-872A	11.00
GL-1623	2.50

FOR ECONOMICAL MEDIUM POWER

GL-811 High Mu Triode

ICAS* Class B Modulator Rating (2 tubes)
 Max. Plate Volts 1500
 Max. Plate Current 200 mils
 Driving Power 10.5 watts
 Output Power 225 watts

Net \$3.50



GL-812 Low Mu Triode

ICAS* Class C. Telegraph Rating
 Max. Plate Volts 1500
 Max. Plate Current 150 mils
 Driving Power 6.5 watts
 Power Output 170 watts
 Max. Frequency 100 mc

Net \$3.50

*Intermittent Commercial and Amateur Service.

TOPS IN "50-WATTS"

GL-838

Class B Audio
260 watts output (2 tubes)

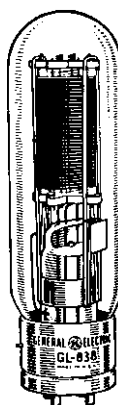
Class C Telephony
100 watts output

Class C Telegraph
130 watts output

Max. Frequency
30 mc at full input

120 mc at reduced ratings

Net \$11.00



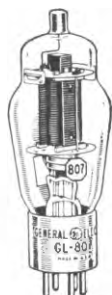
G-E BEAM POWER TUBES

for More Power with Less Equipment

Low Driving Power—Quick Band Change

GL-807 Net \$3.50

● The G-E beam tube for your low-power requirements. Oscillator, amplifier, frequency multiplier or modulator—you can't buy a more versatile performer for \$3.50! Less than half a watt drives two 807's; ICAS cw output: 100 watts!

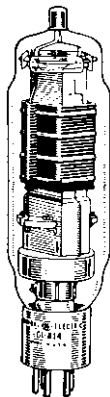


GL-814 Net \$17.50

● The G-E beam power tube for any medium-power r-f application up to 30 mc. 160 watt cw 130 watts plate-modulated phone (ICAS) with 1.5 or 3.2 watts driving power respectively. A 1/2 frequency multiplier, too. \$17.50 puts one in your rig.

GL-813 Net \$22.00

● The G-E beam tube for high power. It will produce 150 watts cw as a crystal oscillator, 500 watts cw with only 1 watt driving power. An excellent frequency multiplier. Makes quick band change at high power easy.



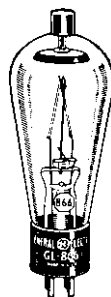
G-E MERCURY-VAPOR RECTIFIERS

GL-866 . Net \$1.50

Max. Peak Inverse Volts 7500
Peak Plate Current . . . 1 amp.
Average Plate Current 0.25 amp.

GL-866A . Net \$2.50

Max Peak Inverse Volts 10,000
Peak Plate Current . . . 1 amp.
Average Plate Current 0.25 amp.



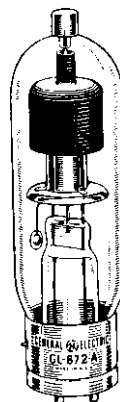
FOR HEAVY DUTY

GL-872 . . Net \$9.00

Max Peak Inverse Volts . . . 7500
Peak Plate Current 5 amp.
Average Plate Current 1.25 amp.

GL-872A Net \$11.00

Max Peak Inverse Volts 10,000
Peak Plate Current 5 amp.
Average Plate Current 1.25 amp.





PYRANOL CAPACITORS

*Cost Less because
They Last Longer*



COMPACT DEPENDABLE INDIVIDUALLY TESTED FIREPROOF
ROUND OR RECTANGULAR UPRIGHT OR INVERTED MOUNTING
CONTINUOUS OPERATION AT 10% OVERLOAD HERMETICALLY SEALED



Thousands of G-E Pyranol Capacitors are in service all over the world. Materials closely controlled as to quality, manufacturing processes under careful engineering and laboratory supervision, years of tested application experience—all these combine to give amateurs an unexcelled capacitor of the same high quality as those used in the largest G-E transmitters.

Pyranol is a non-inflammable, nonexplosive dielectric developed and patented by General Electric. Its extraordinary insulating and dielectric properties make possible the unusual compactness of G-E capacitors.

Hermetical sealing assures permanence of the characteristics of Pyranol capacitors; contamination from air and moisture is impossible. G-E Pyranol capacitors are noted for their long life.

RATINGS AND PRICES Rectangular Cases

Volts D-C	Mfd	Base Mounting		Inverted Mounting	
		Cat. No.	Net Price*	Cat. No.	Net Price*
600	1	23F1	\$2.10	26F172	\$2.10
	2	23F2	2.55	26F167	2.55
	4	23F4	3.30	26F106	3.30
1000	1	23F10	2.25	26F156	2.25
	2	23F11	3.00	26F157	3.00
	4	23F13	3.75	26F93	3.75
	5	23F14	4.50	26F176	4.50
1500	1	23F20	2.70	26F181	2.70
	2	23F21	3.75	26F182	3.75
	4	23F23	5.10	26F184	5.10
	5	23F24	5.40	26F185	5.40
2000	1	23F30	3.30	26F190	3.30
	2	23F31	3.90	26F191	3.90
	4	23F33	5.40	26F193	5.40
	5	23F34	6.00	26F194	6.00
2500	1	23F39	4.80	26F199	4.80
	2	23F40	7.80	26F200	7.80
	4	23F41	10.80	26F201	10.80
3000	1	23F42	7.20	26F202	7.20
	2	23F43	9.00	26F203	9.00
	4	23F44	13.20	26F204	13.20
4000	0.5	23F45	10.80	26F205	10.80
	1	23F46	13.20	26F206	13.20
	2	23F47	16.80	26F207	16.80
5000	0.5	23F48	12.00	26F208	12.00
	1	23F49	15.00	26F209	15.00
	2	23F50	19.20	26F210	19.20

RATINGS AND PRICES Cylindrical Cases

Volts D-C	Mfd	Catalog No.	Net Price*
600	2	23F60	\$1.95
	3	23F61	2.25
	4	23F62	2.70
1000	1	23F63	1.65
	2	23F64	2.25
	3	23F65	2.55
	4	23F66	2.85
1500	0.5	23F67	1.80
	1.0	23F68	2.10
	2.0	23F69	2.85
2000	1.0	23F70	2.70
	2.0	23F71	3.00

* Represents 40% off list price.

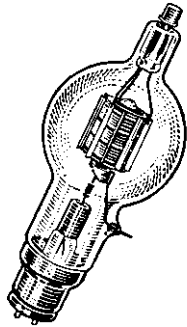
Copyright by U. C. P., Inc.

LOW CAPACITY, SMALL SIZE UNITS



Volts D-C	Mfd	Catalog No.	Net Price*
500	1.0	23F54	\$1.80
1000	0.01	23F55	1.20
1000	0.05	23F56	1.35
1000	0.1	23F57	1.50
1000	0.25	23F58	1.65
1000	0.5	23F59	1.80

In Most All the Important NEW Developments in Radio
You'll Find Eimac Tubes Every Time



A NEW CONCEPTION OF VACUUM TUBE CONSTRUCTION

Long filament life, uniformity of characteristics, outstanding performance and complete freedom from failure caused by gas. These, and other features of Eimac tubes, have been the result of patient research, study and extensive experimentation. Old theories have been discarded and an entirely new conception of vacuum tube construction discovered. Fundamentally, Eimac tubes are far in advance of the industry. New design principles and construction methods give them a marked degree of superiority over conventional tube types.

Cause of Emission Failure

Eimac engineers disproved the popular fallacy that high anode temperatures destroy emission. These high temperatures, or overloads, merely release gas from certain types of tube elements. This gas, not heat, is the cause for emission failure. Conventional anode materials and ceramics, as used for internal insulators, are the main sources of this poison gas. Eimac's recognition of this fact blasted many old theories and led the way for an advanced technique of vacuum tube construction. Processes and materials are used which enable Eimac to develop a real vacuum without the use of a chemical agent or "getter." THE RADICAL DESIGN OF EIMAC TUBES PRACTICALLY ELIMINATES INTERELECTRODE CAPACITIES.

Tantalum Plates & Grids

Both plates and grids are fabricated from completely de-gassed tantalum and mounted into clear glass envelopes without the use of internal insulators. Tantalum is the best suited material to vacuum tube construction because it has the smallest original gas content of any known metal. (1/10 that of Molybdenum and only 1/1000 that of carbon such as commonly used for anodes). This relatively small gas content is entirely removed by an exclusive Eimac process (pat. applied for). Anodes are suspended from the top of the bulb

and grids are permanently secured without the use of extra supporting bars. This greatly increases the effective area of the plate and reduces the amount of grid current necessary for top performance.

A New Thoriated Filament

Certain negative conditions which existed in the old type filament, such as: low ratio of usable to peak plate current, "cranky" filament voltage, tubes going flat for no apparent reason; are practically eliminated with the new Eimac thoriated filament. Specifically this new filament operates at a lower temperature and all forms of "cheating" such as under processing are not attempted. This results in the highest possible thermionic efficiencies plus longer filament life and uniformity. A special support makes displacement impossible, hence characteristics are never altered.

Eimac Guarantee

Eimac tubes are conservatively rated as to plate dissipation and are unconditionally guaranteed against failure caused by gas released internally. Momentary overloads of as much as 400% to 600% which is sufficient to cause the anode to become incandescent will positively not release gas. Spotlessly clean glass bulbs and metal parts, perfect alignment of the elements and uniformity of electrical characteristics attest the skill of the artisans who fabricate Eimac tubes.

Eimac
TUBES

Eimac Tubes are now being used by practically every Commercial
Airline in the United States.

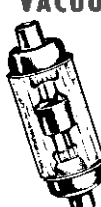
SEE REVERSE SIDE FOR COMPLETE DATA ON ALL EIMAC TUBES

UNCONDITIONALLY GUARANTEED AGAINST TUBE FAILURES CAUSED BY GAS RELEASED INTERNALLY

This chart gives the essential data and characteristics of the most popular Eimac tubes

		Eimac TUBES																	
		35T	35 TG	Twin 30	UH 50	75T	100 TL	100 TH	125M Tetrode	152 TL	250 TL	250 TH	304 TL	450 TL	450 TH	750 TL	1000 UHF	1500 T	2000 T
CHARACTERISTICS	Filament Voltage (volts)	5	5 to 5.1	6	7.5	5	5	5	5	5 or 10	5	5	5 or 10	7.5	7.5	7.5	7.5	7.5	10
	Filament Current (amperes)	4	4	4	3.25	6.5	6.5	6.5	6.5	13 or 6.5	10.5	10.5	26-13	12	12	21	16	26	26
	Amplification Factor	30	30	32	10.6	10	12	30	.....	10	13	32	10	16	30	13.5	30	18.5	18.5
	Grid-Plate Capacity (mmfds)	1.9	1.7	2*	2.6	2.3	2.3	2	.1	5	3.5	3.3	5	4	4	4.5	4	7	9
	Grid-Filament Cap. (mmfds)	4.0	1.9	1.9*	2.2	2.2	2	2.2	13	5	3	3.5	10	4	4	6.0	6	10	13
	Plate-Filament Cap. (mmfds)	.2	.2	.2	.3	.3	.4	.3	3.7	.75	.5	.3	1.5	.6	.6	.8	.6	.9	1
	Bulb	T14 Nonex	T14	T14 Nonex	S21 Nonex	G22 Nonex	GT25 Nonex	GT25 Nonex	G20	G20	GT30 Nonex	GT30 Nonex	G28	GT40 Nonex	GT40 Nonex	GT58 Nonex	GT40 Nonex	GT56 Nonex	GT64 Pyrex
	Base	Isolantite UX4 Prong	Isolantite UX4 Prong	Isolantite UX4 Prong	Isolantite UX4 Prong	Isolantite UX4 Prong	Isolantite UX4 Prong	Isolantite UX4 Prong	Isolantite UX4 Prong	Isolantite UX4 Prong	Isolantite UX4 Prong	Isolantite UX4 Prong	Isolantite UX4 Prong	Isolantite UX4 Prong	Isolantite UX4 Prong	Isolantite UX4 Prong	Isolantite UX4 Prong	Isolantite UX4 Prong	Isolantite UX4 Prong
	Overall Height (inches)	5½	5½	4¾	6¾	7	7½	7½	5½	7½	9¾	9¾	7½	12½	12½	16½	12½	16½	17½
	Maximum Diameter (inches)	1¾	1¾	3	2¾	2¾	3¼	3¼	2¾	2¾	3¾	3¾	3¼	5	5	7	5	7	8
Maximum Ratings	Max. Plate Voltage (volts)	2000	2000	1500	1250	3000	3000	3000	3000	3000	3000	3000	3000	6000	6000	6000	6000	6000	6000
	Max. Plate Current (millamps)	150	150	85*	125	175	225	225	225	500	350	350	1000	500	500	1000	750	1250	1750
	Max. Grid Current (millamps)	35	30	30*	25	30	35	60	.030	75	50	100	150	75	125	125	125	175	225
	Plate Dissipation (watts)	70	70	30*	50	75	100	100	125	150	250	250	300	450	450	750	1000	1500	2000
	Power Output (watts)	240	240	175	125	300	400	400	375	600	800	800	1200	1800	1800	3000	3500	5000	7500
FCC	Power Output (watts) High Level Modulated	50	50	.....	.....	100	100	100	.....	.....	350	350	.....	500	500	1000	1000	2500	2500
	Power Output (watts) Linear Amplifier	.....	.....	.....	.....	25	50	50	.....	.....	125	125	.....	125	125	350	350	500	1000
	LIST PRICE (NET)	\$6.00	\$6.75	\$13.50	\$12.50	\$9.00	\$13.50	\$13.50	\$28.50	\$20.00	\$24.50	\$24.50	\$65.00	\$75.00	\$75.00	\$175	\$175	\$225	\$300


VACUUM TANK CONDENSERS



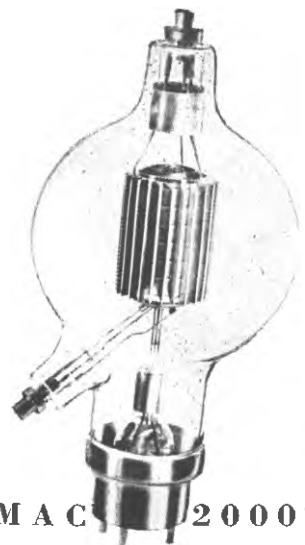
Only 6½ inches long with a diameter of 2¼ inches yet it carries a peak rf voltage rating of 32,000. May be used in a push pull 100% modulated transmitter operating at 4000 volts on the plate... higher voltages may be used with single ended transmitters where no modulation is required. Proper combinations of the standard units will produce any desired capacity for optimum circuit efficiencies on any frequency at any voltage. Rf current rating 20 to 50 amperes per unit depending upon frequency.

Capacity	6mmfd	12mmfd	25mmfd	50mmfd
Net price	\$7.50	\$8.50	\$10.50	\$12.50

MERCURY VAPOR RECTIFIERS



	RX21	GRID CONTROL KY21
Filament Voltage	2.5 volts	2.5 volts
Filament Current	10 amperes	10 amperes
Peak Inverse Voltage	11,000 volts	11,000 volts
Peak Plate Current	3 amperes	3 amperes
Average Plate Current	.75 amps.	.75 amps.
NET PRICE	\$7.50	\$10.00



EIMAC 2000 T

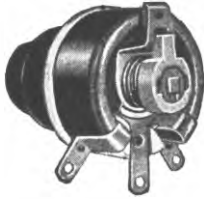
Typical example of the radical design and rugged construction found in all Eimac tubes.



Complete data sheets are available for every Eimac tube. Write us for your copies and full information.

RING TYPE RHEOSTATS

WARD LEONARD 



CONSTRUCTION—The core and base of these rheostats are of refractory material. The resistance wire is wound toroidally around the core and coated with vitreous enamel.

The contact arm construction separates the functions of current handling and contact pressure. The contact is a special alloy and of large area to avoid sticking, pitting, local heating, or oxidation when setting remains fixed for any length of time.

STEPS—There are as many steps of resistance as there are turns of wire in the winding. Three terminals provide rheostat or potentiometer connection.

WATT RATINGS—are based on continuous operation in free air with a temperature rise not exceeding 300° C which is within the limits specified by the Underwriters' Laboratories and NEMA.

DEPTH BACK OF PANEL—1105 1 3/16", 1106 1 5/16", 1107 1 3/4", and 1108 2".

1105 25 WATTS 1 1/2" Dia.				
Total Resis. Ohms	Max. Current m. a.	Approx. No. Steps	Catalog No.	List Price
1.0	5,000	45	1105-2	\$4.50
1.6	3,950	45	1105-3	4.00
2.5	3,160	54	1105-4	4.00
4.0	2,500	72	1105-5	4.00
6.4	1,980	90	1105-6	4.00
10.	1,580	90	1105-7	4.00
16.	1,250	108	1105-8	4.00
25.	1,000	103	1105-9	4.00
40.	791	137	1105-10	4.00
64.	625	137	1105-11	4.00
100.	500	171	1105-12	4.00
160.	395	205	1105-13	4.00
250.	316	240	1105-14	4.00
400.	250	274	1105-15	4.00
640.	198	308	1105-16	4.00
1,000.	158	390	1105-17	4.50
1,600.	125	411	1105-18	4.50
2,500.	100	520	1105-19	4.50
4,000.	79	520	1105-20	4.75

1106 50 WATTS 2 1/4" Dia.				
Total Resis. Ohms	Max. Current m. a.	Approx. No. Steps	Catalog No.	List Price
0.64	8,850	30	1106-1	\$5.00
1.0	7,070	49	1106-2	5.00
1.6	5,590	59	1106-3	5.00
2.5	4,470	69	1106-4	4.50
4.0	3,535	69	1106-5	4.50
6.4	2,795	119	1106-6	4.50
10.	2,235	150	1106-7	4.50
16.	1,760	140	1106-8	4.50
25.	1,415	188	1106-9	4.50
40.	1,120	150	1106-10	4.50
64.	884	188	1106-11	4.50
100.	707	225	1106-12	4.50
160.	559	263	1106-13	4.50
250.	447	300	1106-14	4.50
400.	353	375	1106-15	4.50
640.	279	413	1106-16	4.75
1,000.	223	450	1106-17	4.75
1,600.	176	570	1106-18	4.75
2,500.	141	570	1106-19	4.75
4,000.	112	713	1106-20	5.00
6,400.	88	855	1106-21	5.00
10,000.	70	998	1106-22	5.00

1107 100 WATTS 3" Dia.				
Total Resis. Ohms	Max. Current m. a.	Approx. No. Steps	Catalog No.	List Price
0.64	12,500	31	1107-1	\$7.50
1.0	10,000	41	1107-2	7.50
1.6	7,900	41	1107-3	7.50
2.5	6,320	52	1107-4	7.50
4.0	5,000	62	1107-5	7.00
6.4	3,950	72	1107-6	7.00
10.	3,160	72	1107-7	7.00
16.	2,500	156	1107-8	7.00
25.	2,000	196	1107-9	7.00
40.	1,580	235	1107-10	7.00
64.	1,250	274	1107-11	7.00
100.	1,000	274	1107-12	7.00
160.	790	313	1107-13	7.00
250.	632	313	1107-14	7.00
400.	500	392	1107-15	7.00
640.	395	392	1107-16	7.00
1,000.	316	470	1107-17	7.50
1,600.	250	595	1107-18	7.50
2,500.	200	744	1107-19	7.50
4,000.	158	744	1107-20	8.00
6,400.	125	1041	1107-21	8.50
10,000.	100	1041	1107-22	9.00

1108 150 WATTS 4" Dia.				
Total Resis. Ohms	Max. Current m. a.	Approx. No. Steps	Catalog No.	List Price
0.64	15,000	43	1108-1	\$9.50
1.0	12,250	43	1108-2	9.50
1.6	9,680	54	1108-3	9.50
2.5	7,750	54	1108-4	9.50
4.0	6,120	54	1108-5	9.50
6.4	4,840	54	1108-6	9.00
10.	3,870	118	1108-7	9.00
16.	3,060	118	1108-8	9.00
25.	2,450	204	1108-9	9.00
40.	1,935	245	1108-10	9.00
64.	1,530	286	1108-11	9.00
100.	1,225	367	1108-12	9.00
160.	968	326	1108-13	9.00
250.	775	408	1108-14	9.00
400.	612	408	1108-15	9.00
640.	484	489	1108-16	9.50
1,000.	387	620	1108-17	9.50
1,600.	306	620	1108-18	10.00
2,500.	245	775	1108-19	10.00
4,000.	193	930	1108-20	10.50
6,400.	153	1085	1108-21	11.00
10,000.	122	1240	1108-22	12.00



300 and 500 Watt Rheostats for Heavy Duty

Watt Rating	Available Ohms	Steps	Diam.	List Price
300	1 to 2500	20	6"	\$18.00
500	1 to 5000	33	8"	27.00

Pressed steel plate type. The watt rating, based on the minimum current being one-half the maximum current, is the product of the maximum current, minimum current and the total rheostat resistance.

Non-Inductive

PLAQUE RESISTORS

Non-Capacitive



Vitrohm Plaque Resistors are rated 20, 40, and 125 watts with full ventilation. In practice it is difficult to achieve this ideal ventilation. However, a single resistor mounted on a panel should operate safely at approximately 80% of the full rating in watts.

These Vitrohm Plaque Resistors are flat in form. The resistance wire is so arranged as to give the lowest obtainable values of inductance and distributed capacitance for

a power resistor. Both the inductance at frequencies up to 1000 kilocycles and the distributed capacity up to 5 megacycles are negligible.

Prices and Specifications

	3 1/8" 20 Watt	4 3/4" 40 Watt	5 3/4" 125 Watt
Shipping weight	2 oz.	4 oz.	6 oz.
List Price Each	\$1.50	\$2.00	\$3.00

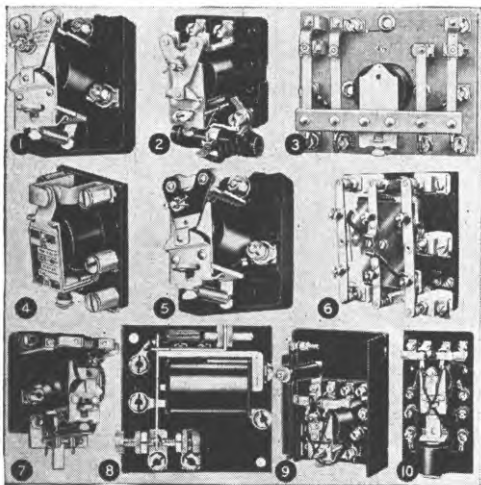
Resis. Ohms	20 Watt		40 Watt		125 Watt	
	Cat. No.	Cur. m. a.	Cat. No.	Cur. m. a.	Cat. No.	Cur. m. a.
0.64	507-600	5,590	507-624	7,910	507-655	14,000
1.00	507-601	4,470	507-625	6,320	507-656	11,200
1.6	507-602	3,540	507-626	5,000	507-657	8,800
2.5	507-603	2,830	507-627	4,000	507-658	7,050
4.0	507-604	2,240	507-628	3,160	507-659	5,600
6.4	507-605	1,770	507-629	2,500	507-660	4,400
10	507-606	1,415	507-630	2,000	507-661	3,500
16	507-607	1,120	507-631	1,580	507-662	2,800
25	507-608	895	507-632	1,260	507-663	2,200
40	507-609	705	507-633	1,000	507-664	1,770
50	507-610	630	507-286	895	507-665	1,580
64	507-611	560	507-635	790	507-666	1,400
100	507-612	445	507-115	630	507-667	1,120
160	507-613	355	507-637	500	507-668	880
250	507-614	285	507-638	400	507-669	705
400	507-615	225	507-639	315	507-670	560
640	507-616	175	507-640	250	507-671	440
1,000	507-617	140	507-641	200	507-672	350
1,600	507-618	110	507-642	160	507-673	280
2,500	507-619	90	507-643	125	507-674	220
4,000	507-620	70	507-644	100	507-675	177
5,000	507-621	65	507-111	90	507-676	158
6,400	.....	.....	507-646	80	507-677	140
10,000	.....	.....	507-647	65	507-678	112



**WARD
LEONARD**

RELAYS

**FOR AUTOMATIC
CONTROL**



1. REMOTE CONTROL—Single or Double pole, light or heavy duty.
2. UNDERLOAD—Protects class "B" modulator tubes and transformers.
3. BREAK-IN-(Push-to-Talk)-MIDGET TYPE—Handy on phone work. See (6) for Heavy Duty Type of construction.
4. REMOTE CONTROL—Heavy Duty Midget, single pole only, see 507-547.
5. KEYING—For center tap or grid bias keying. Will handle up to 40 words per minute.
6. R. F. ANTENNA CHANGE-OVER—Heavy duty type of construction. See (3) for light duty type of construction.
7. OVERLOAD—Protects tube while tuning and also if excitation fails.
8. SENSITIVE—Operates on 0.014 watts D.C. Can be furnished for use on A.C.
9. THERMAL TIME DELAY—Protects tube by delaying plate voltage until filament has reached operating temperature.
10. LATCH-IN-ARMATURE is held "in" by mechanical latch, tripped electrically.

Description	Cat. No.	CONTACTS					List Price	COIL DATA					
		Poles	Throw	Break	Normal Position	Amps		Voltage		Resist. Ohms	Current m. a.	Watts	
								A.C.▲	D.C.				
Thermal Time Delay	507-501	Single	Double	Single	.....	4.	\$15.00	110	.....	.....	.....	.....	.....
Remote Control	507-503	Double	Single	Single	Open	4.	8.00	6	.....	2.6	660.	3.0	.....
Remote Control	507-504	Double	Single	Single	Open	4.	8.00	.....	6	16.9	350.	2.1	.....
Remote Control	507-505	Double	Double	Single	.....	4.	9.00	6	.....	2.6	660.	3.0	.....
Remots Control	507-506	Double	Double	Single	.....	4.	9.00	.....	6	16.9	350.	2.1	.....
Low Voltage Keying	507-507	Single	Single	Double	Open	6.	7.00	6	.....	2.6	660.	3.9	.....
Low Voltage Keying	507-508	Single	Single	Double	Open	6.	7.00	.....	6	16.9	350.	2.1	.....
Remote Control	507-510	Single	Single	Double	Open	6.	7.00	110	.....	1050.	33.	2.5	.....
Remote Control	507-511	Double	Double	Single	.....	4.	9.00	110	.....	1050.	33.	2.5	.....
Overload	507-512	Single	Single	Double	Closed	6.	8.50	.....	4.2	16.9	250.	.....	.....
Overload	507-513	Single	Single	Double	Closed	6.	8.50	.....	2.1	4.2	500.	.....	.....
Underload	507-514A	Single	Single	Double	Open	4.	10.00	.....	9	45.	200.	.....	.....
Underload	507-515A	Single	Single	Double	Open	4.	10.00	.....	6	20.	300.	.....	.....
Midget Latch-In	507-517	Single	Double	Double	.....	6.	14.50	110	.....	715.	40.	4.0	.....
Heavy Duty Remote Control	507-518	Single	Single	Double	Open	10.	8.80	110	.....	1050.	33.	2.5	.....
Steel Knock-out Box	507-519	.....	.....	.....	.....	.....	3.00	.....	.....	.....	.....	.....	.....
Bakelite Cover	507-520	.....	.....	.....	.....	.....	.70	.....	.....	.....	.....	.....	.....
Heavy Duty — R. F. Antenna Change Over	507-521A	Double	Double	Single	.....	15.	25.00	110	.....	108.	119.	5.2	.....
Heavy Duty — R. F. Antenna Change Over	507-522A	Double	Double	Single	.....	15.	25.00	220	.....	425.	76.	5.8	.....
Heavy Duty — R. F. Antenna Change Over	507-523A	Double	Double	Single	.....	15.	25.00	.....	6	16.	375.	2.3	.....
Heavy Duty—R. F. Break-In	507-526A	Four●	.....	Single	.....	15.	27.50	110	.....	108.	119.	5.2	.....
Heavy Duty—R. F. Break-In	507-527A	Four●	.....	Single	.....	15.	27.50	220	.....	425.	76.	5.8	.....
Heavy Duty —R. F. Break-In	507-528A	Four●	.....	Single	.....	15.	27.50	.....	6	16.	375.	2.3	.....
Midget—R. F. Antenna Change Over	507-531	Double■	Double	Single	.....	4.	8.00	110	.....	715.	40.	4.0	.....
Midget—R. F. Antenna Change Over	507-532	Double■	Double	Single	.....	4.	8.00	.....	6	10.	600.	3.6	.....
Band Switching	507-533	Single	Single	Double	Open	10.	8.50	110	.....	715.	40.	4.0	.....
Midget—R. F. Break-In	507-534	Four◆	.....	Single	.....	4.	11.00	110	.....	715.	40.	4.0	.....
Midget—R. F. Break-In	507-535	Four◆	.....	Single	.....	4.	11.00	.....	6	10.	600.	3.6	.....
D. C. Sensitive	507-539	Single	Double	Single	.....	2.	12.50	.....	0.51	19.2	26.7	0.014	.....
D. C. Sensitive	507-540	Single	Double	Single	.....	2.	12.50	.....	1.28	120.	10.7	0.014	.....
D. C. Sensitive	507-541	Single	Double	Single	.....	2.	13.00	.....	3.24	765.	4.23	0.014	.....
D. C. Sensitive	507-542	Single	Double	Single	.....	2.	13.00	.....	5.17	1950.	2.65	0.014	.....
D. C. Sensitive	507-543	Single	Double	Single	.....	2.	13.50	.....	8.07	4750.	1.70	0.014	.....
D. C. Sensitive	507-544	Single	Double	Single	.....	2.	14.00	.....	12.40	11300.	1.10	0.014	.....
D. C. Sensitive	507-545	Single	Double	Single	.....	2.	18.00	.....	20.20	31000.	0.65	0.014	.....
Safety Relay	507-546	Single	Single	Double	Closed	7.	9.00	110	.....	715.	40.	4.0	.....
Remote Control Heavy Duty	507-547	Single	Double	Single	.....	15.	4.70	.....	6	.....	.....	.....	.....
Remote Control Heavy Duty	507-548	Single	Double	Single	.....	15.	4.70	.....	6	.....	.....	.....	.....
Remote Control Heavy Duty	507-549	Single	Double	Single	.....	15.	5.00	115	.....	.....	.....	.....	.....

▲ 60 Cycles A. C.

◆ With D. P., D. T., S. B. contacts insulated for R. F. and two contacts with standard insulation, one N. O., one N. C.

■ Can also be furnished with additional N. O. or N. C. contact not insulated for R. F. Price on application.

◆ With one N. O., one N. C., and two D. T. contacts, all S. B. and insulated for R. F.

CARDWELL



Quality Products

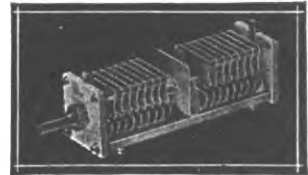
THE STANDARD OF COMPARISON

New TRIM-AIR MIDGET CONDENSERS



ZR-35-AS

An improved line of single and double section midgets. End plates 5/32" thick Isolantite; NON-REMOVABLE SHAFTS. Long bushing permits single hole mounting in 3/8" diameter hole on panels up to 1/4". (Stub shaft with screw driver slot available special order only.) Singles have new thick nut for rotor shaft lock for fixed tune. Require 1-5/16" x 1-13/32" panel mounting space—duals take 1-45/64" x 1-13/32". All duals have double bearings, shaft extended at rear for ganging and have removable inter-section shields. All Trim-Airs have 1/4" brass shafts, nickel plated. Aluminum plates with nickleed brass spacers. Trim-Air accessories fit duals, singles, band-spread types, as well as "E" type fixed air midgets.



ET-30-AD

For duals "B" is length over outside end plates.

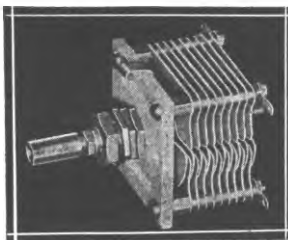
For singles "B" is overall from front of Isolantite plate to extreme rear.

★ SINGLE TRIM-AIRS

Type	Max. Cap.	Min. Cap.	Nr. Plates	Air-gap	Dim. "B"	Net Price
ZR-10-AS	10	1.2	3	.030"	7/8"	\$.75
ZR-15-AS	15	1.5	5	.030"	31/32"	.75
ZR-25-AS	25	2	7	.030"	1-1/16"	.84
ZR-35-AS	35	2.5	11	.030"	1-9/32"	.90
ZR-50-AS	50	2.8	13	.030"	1-3/8"	.96
ZU-75-AS	75	2.7	15	.020"	1-3/8"	1.02
ZU-100-AS	100	3	19	.020"	1-1/2"	1.05
ZU-140-AS*	140	5	27	.020"	1-23/32"	1.89
ZV-5-TS†	5	1.5	3	.061"	31/32"	.75
ZT-10-AS	11	3.6	6	.070"	1-1/16"	.87
ZT-15-AS	15	3	9	.070"	1-1/2"	.93
ZT-30-AS	30	4	17	.070"	2-7/32"	1.11
ZS-4-SS‡	4	1.5	5	.140"	1-1/2"	1.11
ZS-7-SS‡	7	4	7	.140"	1-27/32"	1.26

*Double bearing—2 end plates, shaft not extended at rear.
 †Supplied with 2 segment stator for U.H.F. circuits. Extra plate also supplied; easily installed; making it 3 plates as listed.
 ‡Neutralizer condensers—.040" thick plates, buffed—4500 V. peak. Dual type nr's ending in ADI or SDI signify ganged neutralizers for P.P. and have insulated couplings.

BALANCING TYPE TRIM-AIR MIDGETS



EU-100-AB

For line balancers, bridge work or other services requiring a small and compact type of efficient balancing capacitor, the new Cardwell Trim-Air Balancing condensers are ideally suited. Having all features of regular Trim-Airs, this type has two stators set at 180° apart which engage with a single rotor. Balancing Trim-Airs are all

single bearing type except EU-140-AB which has double end plates and the compact Cardwell "ball and strap" rear bearing. Single hole mounting requires a 3/8" hole in a panel or chassis, or regular Trim-Air accessory mounting may be purchased separately.

★ BALANCING "TRIM-AIRS"

Type	Max. Cap.	Min. Cap.	Nr. Plates	Air-gap	Dim. "B"	Net Price
ER-25-AB	25	2	7	.030"	1-1/16"	\$1.14
ER-50-AB	50	2.8	13	.030"	1-3/8"	1.38
EU-75-AB	75	2.7	15	.020"	1-3/8"	1.50
EU-100-AB	100	3	19	.020"	1-1/2"	1.58
EU-140-AB	140	5	27	.020"	1-23/32"	3.18

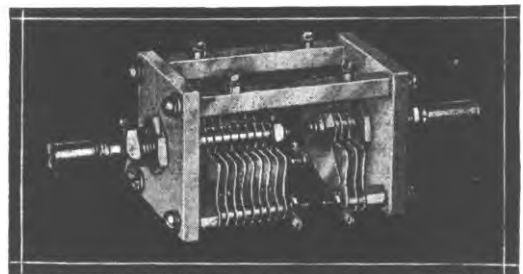
★ DUAL TRIM-AIRS

Type	Per Section			Air-gap	Dim. "B"	Net Price
	Max. Cap.	Min. Cap.	Nr. Plates			
ER-10-AD	10	1.2	3	.030"	2-3/16"	\$1.56
ER-15-AD	15	1.5	5	.030"	2-3/16"	1.56
ER-25-AD	25	2	7	.030"	2-3/16"	1.62
ER-35-AD	35	2.5	11	.030"	3-1/32"	1.74
ER-50-AD	50	2.8	13	.030"	3-1/32"	1.96
EU-75-AD	75	2.7	15	.020"	3-1/32"	1.98
EU-100-AD	100	3	19	.020"	3-1/32"	2.04
EU-140-AD	140	5	27	.020"	3-11/16"	3.60
ET-15-AD	15	3	9	.070"	3-1/32"	1.80
ET-15-ADI	15	3	9	.070"	3-1/32"	2.10
ET-30-AD	30	4	17	.070"	4-15/32"	2.16
ET-30-ADI	With insulated coupling				4-15/32"	2.46
ES-4-SD	4	1.5	5	.140"	3-1/32"	2.16
ES-4-SDI	With insulated coupling				3-1/32"	2.46
ES-7-SDI	7	4	7	.140"	3-11/16"	2.70

"TRIM-AIR" Accessories: As listed, Trim-Air singles are equipped for single hole mounting. Dual Trim-Airs for single hole or base mounting. These additional brackets and mounting posts are sold separately.

Mounting Bracket, with 2 screws and nuts.....Net \$06
 Mounting Posts, with screws and lock-washers—
 per pair.....Net \$08

BAND SPREAD TRIM-AIRS



For heterodyne frequency meters, wave meters, etc. Use band-spread dial on small capacity section. Band is set in middle of dial by adjusting 100 mmfd. section at rear, which is then locked. Identical in size to dual Trim-Airs. Single hole, base mounting, or fits regular Trim-Air hardware.

★ BAND SPREAD TRIM-AIRS

Type	Tuning Cap.	Tank Cap.	Depth Behind Panel	Net Price
EU-25-100-AF	25	100	2-3/4"	\$1.80
EU-50-100-AF	50	100	3-5/8"	1.98

CARDWELL



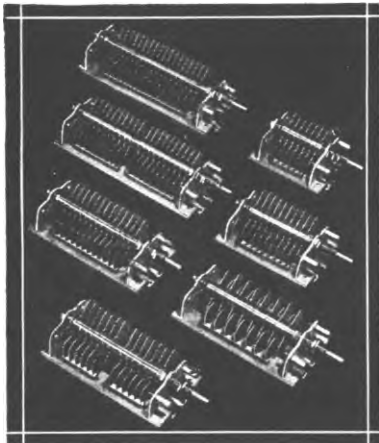
Quality Products

THE STANDARD OF COMPARISON

New ULTRA-HIGH FREQUENCY Transmitting Condenser Series

These seven new "N" types complete a series of 10 models in this efficient line of medium power transmitting condensers for 5-10 and 20 meters.

Built right—priced right, Cardwell "N" types will make your new U.H.F. job look better and work better.



Specifications of "N" TYPE U.H.F. SERIES

FRAME—No frame or tie rods. Aluminum end plates supported directly on heavy lateral ceramic bars which carry stators.

SHAFT—1/4" cadmium plated steel on which rotor assembly is securely locked.

PLATES—Aluminum alloy .040" thick with edges rounded.

BEARINGS—Long, nickel-plated brass, shoulder type front bearing, with ball thrust rear bearing. Laminated phosphor bronze rotor contactor.

AIRGAP—.070"—3000 V. peak—(NT)
.084"—4200 V. peak—(NP)
.171"—6000 V. peak—(NG)

MOUNTING—Single hole, front panel with mounting posts or chassis mounting on feet which form part of end plates. Or use type "M" bracket and mount upside down for lowest capacity to ground.

★ ULTRA-HIGH FREQUENCY SINGLES

Type	Max. Cap.	Min. Cap.	Nr. Plates	Air-gap	"Dim. "A"	Net Price
NP-50-DS	50	9	13	.084"	2-1/4"	\$2.10
NP-75-DS	75	11.0	19	.084"	3-1/16"	2.46
NP-100-DS	100	13	25	.084"	4-1/8"	2.82
NP-150-DS	150	19	39	.084"	5-5/8"	3.66
NG-35-DS	35	11	15	.171"	4-1/8"	3.12

★ ULTRA-HIGH FREQUENCY DUALS

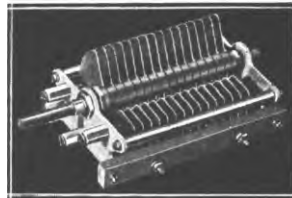
Type	Per Section			Air-gap	"Dim. "A"	Net Price
	Max. Cap.	Min. Cap.	Nr. Plates			
NT-50-GD†	50	7	11	.070"	3-1/16"	\$3.60
NP-35-ND†	35	5	9	.084"	3-1/16"	3.60
NP-35-DD	35	5	9	.084"	3-1/16"	3.21
NP-50-DD	50	9	13	.084"	4-1/8"	3.60
NP-75-DD	75	11	19	.084"	5-5/8"	4.32

*Dimension "A" is distance between inside faces of end plates. For overall length back of panel, add 1-3/32" to "A" dimension.

† .040" plates, buffed and polished.
‡ .025" plates, buffed and polished.

MIDWAY FEATHERWEIGHT CONDENSERS

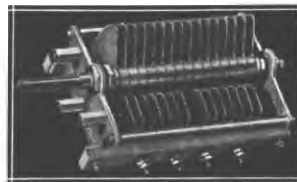
For low and medium power transmitters and receivers, where light weight and small space are factors. Ideal for portable and aircraft equipment. Panel mounting space only 2-1/8" x 3" condenser open. 1/4" steel shaft; aluminum frame; brass bearings; plates buffed, rounded on all airgaps .070" or over. Supplied with aluminum mounting feet. G.E. Mycalex insulation. For "upside-down" mounting, use new type "M" mounting brackets; perfect layout for high efficiency, short lead P.P. amplifier permits low stator to chassis capacity.



MT-150-GS

★ MIDWAY TRANSMITTING CONDENSERS Single Section Types

Type	Max. Cap.	Min. Cap.	Nr. Plates	Air-gap	"Dim. "B"	Net Price
MR-50-BS	50	6	5	.030"	1-3/4"	\$1.88
MR-70-BS	70	7	7	.030"	1-3/4"	1.77
MR-105-BS	105	8	11	.030"	1-3/4"	1.83
MR-150-BS	150	10	15	.030"	1-3/4"	1.89
MR-260-BS	260	11	25	.030"	2-3/4"	1.98
MR-365-BS	365	14	35	.030"	2-3/4"	2.28
MO-165-BS	165	15	25	.050"	2-3/4"	1.98
MT-20-GS	20	5	5	.070"	1-3/4"	1.95
MT-35-GS	35	6	7	.070"	1-3/4"	2.10
MT-50-GS	50	8	11	.070"	1-3/4"	2.34
MT-70-GS	70	10	15	.070"	2-3/4"	2.67
MT-100-GS	100	12	21	.070"	2-3/4"	2.94
MT-150-GS	150	16	31	.070"	3-11/16"	3.60
MG-35-NS	35	12	15	.171"	3-11/16"	3.60



MT-70-GD

★ MIDWAY TRANSMITTING CONDENSERS Dual Section Types

Type	Per Section			Air-gap	"Dim. "B"	Net Price
	Max. Cap.	Min. Cap.	Nr. Plates			
MR-25-BD	25	5	3	.030"	1-3/4"	\$2.61
MR-50-BD	50	6	5	.030"	2-3/4"	2.82
MR-70-BD	70	7	7	.030"	2-3/4"	2.94
MR-100-BD	100	8	11	.030"	2-3/4"	3.08
MR-150-BD	150	9	15	.030"	2-3/4"	3.18
MR-260-BD	260	11	25	.030"	3-11/16"	3.30
MO-180-BD	180	15	29	.050"	5-5/16"	4.80
MT-20-GD	20	6	5	.070"	2-3/4"	3.33
MT-35-GD	35	7	7	.070"	2-3/4"	3.60
MT-50-GD	50	9	11	.070"	2-3/4"	3.81
MT-70-GD	70	10	15	.070"	3-11/16"	4.20
MT-100-GD	100	13	21	.070"	5-5/16"	4.80

*"B" Dimension is length over outside end plates.

For overall length back of panel when using panel mounting hex. posts, add 7/8" to "B."

For overall, using mounting feet for chassis mounting, add 1-1/8" to "B."

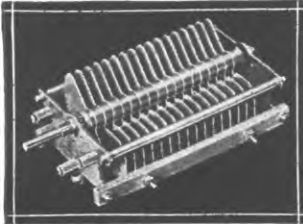
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Quality Products

THE STANDARD OF COMPARISON

"X" TYPE TRANSMITTING CONDENSERS

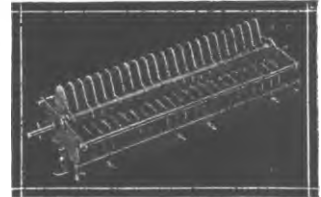


XE-240-XS

STANDARD OF COMPARISON FOR YEARS

Rounded edges, polished aluminum plates, .040" thick on all but "XT" and "XR" types.

Frames, tie rods, bearing bushings, spacers and stator blocks, nicked brass. Cadmium plated 1/4" steel shaft supports securely locked rotor assembly. "G.E." Mycallex insulation. Panel space 4-1/8" x 3-3/8". Panel or chassis mounting. N.P. brass mounting feet provided.



XG-110-XD

★"X" TYPE STANDARD SINGLES

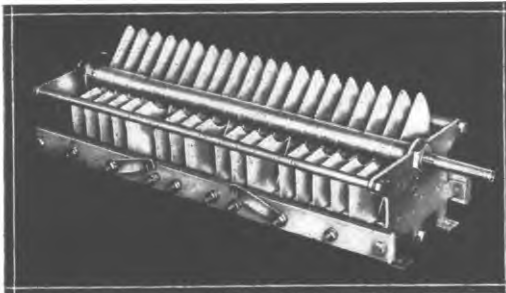
Type	Max. Cap.	Min. Cap.	Nr. Plates	Air-gap	'Dim. "B"	Net Price
XT-220-PS	220	20	21	.070"	3-3/16"	\$2.70
XT-440-PS	440	40	43	.070"	5"	4.62
XP-90-KS	90	16	11	.084"	2-1/16"	2.70
XP-165-KS	165	22	19	.084"	3-3/16"	3.90
XP-290-KS	290	35	33	.084"	5"	5.70
XP-330-KS	330	37	37	.084"	5-5/8"	6.48
XE-240-XS	240	30	33	.100"	5-5/8"	6.48
XE-120-XS	120	19	17	.100"	3-3/16"	3.60
XG-25-XS	25	8	5	.171"	2-1/16"	2.10
XG-80-XS	50	15	11	.171"	3-3/16"	3.90
XG-110-XS	110	26	23	.171"	5-5/8"	5.82
XC-18-XS	19	8	5	.200"	2-1/16"	2.70
XC-40-XS	40	15	11	.200"	3-3/16"	3.90
XC-65-XS	65	20	17	.200"	5"	5.10
XC-100-XS	100	28	25	.200"	6-5/8"	6.30
XD-160-XS	160	28	27	.125"	5-5/8"	5.40

"X" TYPE STANDARD DUAL

Type	Per Section			Air-gap	'Dim. "B"	Net Price
	Max. Cap.	Min. Cap.	Nr. Plates			
KR-800-PD	500	18	21	.030"	3-3/16"	\$3.90
KT-80-PD	80	11	9	.070"	3-3/16"	3.30
KT-210-PD	210	22	21	.070"	5"	5.22
XP-90-KD	95	15	11	.084"	3-11/16"	4.50
XP-165-KD	165	23	19	.084"	5-5/8"	6.60
XP-325-KD	325	38	37	.084"	10-3/16"	13.20
XE-120-XD	120	19	17	.100"	5-5/8"	6.00
XE-240-XD	240	32	33	.100"	10-3/16"	12.60
XG-90-XD	50	14	11	.171"	5-5/8"	6.42
XG-110-XD	110	27	23	.171"	10-3/16"	10.80
XC-40-XD	40	14	11	.200"	6-5/8"	6.90
XC-75-XD	75	21	19	.200"	10-3/16"	9.00
XD-160-XD	160	28	27	.125"	10-3/16"	11.40

"B" dimension is length over outside end plates. For overall length back of panel when using panel mounting hex. posts, add 7/8" to "B." For overall, using mounting feet for chassis mounting, add 1-1/8" to "B."

"T" TYPE HEAVY DUTY TRANSMITTING CONDENSERS



SEE Multi-Band Listing

TL-70-50-UQ

No finer stock condenser made. In commercial and high power amateur service the world over. 6-1/4" wide, 5-3/8" high, plates unmeshed. Corona shields on stators for wider airgap types. End plates 1/8" thick, heavy nickel plated. Massive bearings, 3/8" stainless steel shafts; heavy, two finger phosphor bronze rotor contactor bears on sturdy contact ring built to carry very heavy current without power loss. Rotor plates 4-1/2" diameter, .050" thick aluminum. Heavy mounting feet formed as part of end plates. Ball thrust rear bearing. G.E. Mycallex No. 1364 H.F. insulation. Truly the finest stock condenser money can buy.

★"T" TYPE HEAVY DUTY TRANSMITTING Dual Section

Type	Per Section			Air-gap	'Dim. "B"	Net Price
	Max. Cap.	Min. Cap.	Nr. Plates			
TJ-180-UD	150	18	15	.168"	8-9/32"	\$19.20
TJ-200-UD	200	30	21	.168"	11"	21.60
TC-100-UD	100	18	13	.200"	8-9/32"	18.60
TC-160-UD	160	38	19	.200"	11-1/4"	20.40
TC-200-UD	200	40	23	.200"	13-1/4"	22.80
TC-250-UD	250	41	29	.200"	16-1/4"	25.20
TL-50-UD	45	13	7	.294"	6-9/16"	15.00
TL-70-UD	70	19	11	.294"	9-1/4"	17.40
TL-100-UD	94	26	15	.294"	12-1/16"	20.70
TL-160-UD	160	36	25	.294"	19"	26.40
TKD-100-UD	110	30	21	.350"	19"	26.40
TZ-40-RD	40	15	11	.500"	13-13/16"	21.60

★"T" TYPE HEAVY DUTY TRANSMITTING Single Section

Type	Max. Cap.	Min. Cap.	Nr. Plates	Air-gap	'Dim. "B"	Net Price
TJ-315-US	315	31	31	.168"	8-9/32"	\$19.20
TC-200-US	200	40	23	.200"	7-1/4"	16.80
TC-300-US	300	42	35	.200"	10-1/4"	19.20
TL-80-US	50	18	7	.294"	3-13/16"	9.90
TL-80-US	80	22	13	.294"	5-7/8"	12.60
TL-100-US	100	26	15	.294"	6-9/16"	13.20
TL-160-US	160	40	25	.294"	10"	18.00
TZ-40-RS	40	15	11	.500"	7-1/4"	14.40
TZ-80-RS	80	26	21	.500"	12-3/4"	19.20

*Dimension "B" is length over outside end plates. For overall length back of panel, add 1" to "B."

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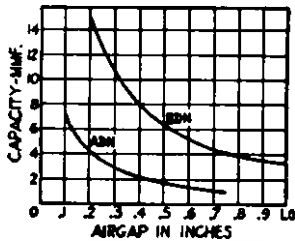
Quality Products

THE STANDARD OF COMPARISON

DISC TYPE NEUTRALIZERS



For low capacity triodes. Finest grade Alsimag insulation, polished aluminum discs. Fine screw thread adjustment in long nickel silver bearing—no wobble. Knurled thumb nut for easy locking. Heavy satin finish aluminum support and base plate.



★ DISC TYPE NEUTRALIZERS

Type	Max. Cap.	Air-gap	Min. Cap.	Air-gap	Disc Diameter	Net Price
ADN	7 mmf.	.1"	1 mmf.	.7"	2"	\$1.80
BDN	15 mmf.	.2"	3 mmf.	1.0"	4"	3.00

TYPE "J" PLUG-IN FIXED AIR CONDENSERS

For fixed capacity loading.

Connect Jack Base across high frequency class "C" tank and plug in proper "J" capacitor to load circuit to lower frequency; proper "C" means highest operating efficiency. Plates easily removed. All "J" types have 2-1/4" square x 1/4" Alsimag No. 196 ceramic end plates. Supplied with banana plugs to fit "JB" Jack Base. On special order provided with hexagonal brass mounting pillars and mounting screws for permanent installation.



★ TYPE "J" PLUG-IN FIXED AIR CONDENSERS

Type	Capacity	Nr. Plates	Air-gap	Length	Net Price
JCO-50-OS	50 mmf.	13	.250"	5-3/8"	\$3.30
JCO-25-OS	25 mmf.	7	.250"	3-3/4"	2.40
JD-100-OS	100 mmf.	17	.125"	4-3/4"	3.90
JD-80-OS	80 mmf.	13	.125"	4"	3.30
JD-50-OS	50 mmf.	8	.125"	3-3/16"	2.40
JD-25-OS	25 mmf.	4	.125"	2-1/2"	1.68
JR-750-OS	750 mmf.	33	.030"	4"	5.28

JACK BASE FOR "J" FIXED AIR CONDENSERS

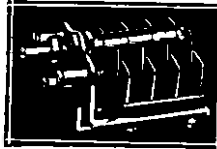
Size—2-3/8" x 2-3/8" x 1/4".

Material—Alsimag No. 196.

Complete with mounting posts, screws and nuts.

Type "JB"..... Net Price \$.60

H. F. NEUTRALIZING CONDENSERS



High frequency neutralizers for low capacity tubes. Mycalux insulation; heavy buffed plates with rounded edges. 180 degree rotation permits calibration and reset. NA-12-NDI is ganged neut. for P. P.

NA-16-NS

Type	Max. Cap.	Min. Cap.	Nr. Plates	Air-gap	"Dim. B"	Net Price
NA-4-NS	4	2.25	2	Adjustable	1-3/8"	\$2.16
NA-6-NS	6	4	3	.218"	1-5/32"	2.16
NA-10-NS	11	6	6	.218"	2-3/32"	2.70
NA-16-NS	16	7	8	.218"	2-9/16"	3.00
NA-12-NDI	12	6	7	.218"	14-25/32"	9.00

*Dimension "B" is overall length from outside front plate. If panel mounted, with hexagonal mounting posts, add 1/2" to "B". †A dimension per drawing for U.H.F. "N" Type.

INSULATED COUPLINGS

MOST COMPLETE LINE OF FINEST FLEXIBLE AND RIGID COUPLINGS



TYPE A



TYPE C

Alsimag No. 196 insulation throughout. All flexible couplings have N. P. phosphor bronze springs and heavy nickel plated brass hubs, permanently swaged into the springs. Double case hardened steel set screws on each hub insure positive lock to shaft. Type "B" is like type "A" except hubs turned OUT for increased flash-over rating. Type "E" like type "C" in appearance except smaller. Type "D" like "C" except hubs turned IN. Type "F" like "E" except hubs turned IN.

Both rigid types are redesigned and have three point suspension, solid brass castings, absolutely rigid.

Type C, D and E flexible have 3/8" hole with removable bushings to fit 1/4" shafts.

★ INSULATED COUPLINGS—Flexible

Type	For Shaft Diam.	Peak Flash-over	Max. Diam.	Length	Net Price
A	1/4"	3,700 V.	1-1/4"	3/4"	\$.36
B	1/4"	7,000 V.	1-1/4"	1"	.36
C	3/8" & 1/4"	13,500 V.	2-3/4"	2-1/8"	1.68
D	3/8" & 1/4"	9,000 V.	2-3/4"	1-5/16"	1.68
E	3/8" & 1/4"	10,000 V.	2-1/8"	1-3/4"	.90
F	3/8" & 1/4"	5,000 V.	2-1/8"	1"	.90



TYPE FNF

TYPE CNF

★ INSULATED COUPLINGS—Rigid

Type	For Shaft Diam.	Peak Flash-over	Max. Diam.	Length	Net Price
FNF	1/4"	7,500 V.	1-3/8"	7/8"	\$.80
CNF	3/8" or 1/4"	12,000 V.	2-1/4"	2-3/16"	2.10

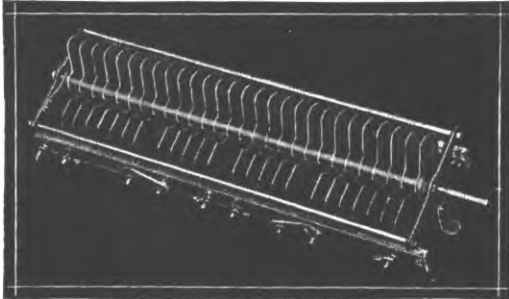
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MULTI-BAND CONDENSERS



XG-70-50-XQ

The only complete line of multi-section capacitors for all powers. Widely used to provide proper "LC" ratio with standard transmitting inductances such as Barker & Williamson, Coto, etc. "Multi-bands" are provided with jumpers to cut in additional sections or any good commercial ceramic insulated gang switch may be used to cut in proper capacities. Tables give available (split stator) effective capacities obtainable. Type numbers indicate actual maximum per section capacities, viz.: Type XG-70-50-XQ has two sections of 70 mmfd. each and two sections of 50 mmfd. each.

★ MULTI-BAND CONDENSERS

Type	Bal. Capacity Range in Mmfd.			Air-gap	Length	Net Price
	2 small sec. in Series	2 large sec. in Series	2 lge., 2 sml. sec. Series Par.			
MR-150-70-BQ	35-5	75-8	110-17	.030"	5-5/16"	\$5.52
MT-70-35-GQ	18-5	35-7	52-10	.070"	6-15/32"	6.90
XE-160-70-XQ	34-9	83-13.5	114-19	.084"	10-3/16"	13.20
*FEX	18.5-6	35-7	50-10	.084"	10-3/16"	15.00
XG-70-50-XQ	30-11	40-13	64-20	.171"	13-1/16"	11.40
TL-70-50-UQ	28-12	42-15	63-22	.294"	15-9/16"	11.40

*Two additional sections on second 180° of dial yielding a fourth balanced capacity of 120-19 Mmfd. B. & W. have special jack-bar to fit FEX and XE-160-70-XQ.

G.E. MYCALEX No. 1364

H.F. insulation in stock bar sizes that can be sawed and drilled. Make your own special inductance mountings. R. F. terminal boards, "O" bars, etc., with a sturdy, H.F. low-loss material.

★ GENERAL ELECTRIC MYCALEX H. F. INSULATION No. 1364 Stock Bar Sizes

Type	Size	Net Price
ME	4-5/16" x 1/2" x 1/4"	\$.21
MG	6" x 1/2" x 1/4"	.33
MH	6-1/4" x 1/2" x 1/4"	.36
MJ	10-7/8" x 3/4" x 1/4"	.99
MK	12" x 1/2" x 1/4"	.81
ML	12" x 3/4" x 1/4"	1.05
MM	12" x 1" x 1/4"	1.17
MN	12" x 1" x 1/8"	.66

CERAMIC SPACERS FOR 3/8" CO-AXIAL LINES

For Radio Frequency Transmission

Designed to fit 3/8" O.D. x .035" gauge dead soft copper tubing.

Material—Alsimag No. 196.

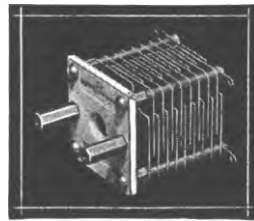
Outside Diameter—.295".

Center Hole—Clearance for No. 12 B. & S. wire.

Beads to be crimped every 2" on No. 12 hard drawn copper wire.

Package 250 beads (enough for 50 ft. of line) . . . Net \$1.38

TYPE "E" MIDGET FIXED AIR CONDENSERS



EO-100-FS

Similar in construction to the larger type "J" Fixed units, the smaller Cardwell Type "E" Fixed air capacitors are only 1-13/32 inches square. As a matter of convenience, they are constructed so that the standard Trim-Air condenser accessories, such as mounting brackets and mounting posts may be used. The mounting space required is the same as for a Cardwell Dual Trim-Air condenser of similar length, but the capacity is several times that of the same sized variable capacitor of similar airgap. Such economy of space permits the use of these small fixed condensers as low-loss interstage coupling condensers in transmitters of moderate power. Since they are available in a wide range of capacities, and with airgaps up to .100", (see listing below), these handy little condensers have many uses, not the least in importance being their utility as capacity loaders in circuits requiring combinations of variable and fixed capacities, (as in frequency meters) or high frequency tank circuits requiring more "C" for lower frequency operation. (As for increasing the minimum capacity of an 80 M. tank circuit variable condenser for efficient operation on 160 meters.)

The ease with which plates may be removed from these units by merely taking off four nuts, makes it a simple matter to decrease capacity and to increase the airgap if desired.

★ TYPE "E" MIDGET FIXED AIR CONDENSERS

Type	Cap.	Nr. Plates	Air-gap	Overall Length	Net Price
EU-80-FS	84	6	.020"	1-11/32"	\$.84
EU-100-FS	116	8	.020"	1-15/32"	.96
EU-175-FS	185	12	.020"	1-19/32"	.99
EU-200-FS	217	14	.020"	1-23/32"	1.05
ER-50-FS	57	6	.030"	1-11/32"	.87
ER-75-FS	80	8	.030"	1-15/32"	.93
ER-100-FS	100	10	.030"	1-19/32"	.99
ER-150-FS	153	14	.030"	1-13/16"	1.17
ER-200-FS	215	20	.030"	2-1/16"	1.50
EO-50-FS	50	8	.050"	1-23/32"	1.05
EO-100-FS	100	15	.050"	2-1/16"	1.26
EO-150-FS*	150	22	.050"	2-15/16"	1.59
EO-200-FS*	203	30	.050"	3-1/2"	1.83
EE-60-FS*	60	18	.100"	3-1/2"	1.80

*Isolantite plate on each end.

CARDWELL

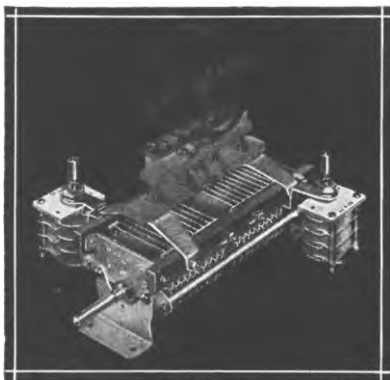


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ACCESSORIES

MOUNTING BRACKETS & FEET



100 WATT FINAL AMPLIFIER CAPACITOR-BRACKET FOUNDATION

Covers 5 to 80 meters inclusive, with Taylor T-40's, B. & W. type "B" Jack Bar, and standard B. & W. type B, BL, or BVL Coils, as additional accessories.

Foundation Includes:

- MT-100-GD Dual Midway Condenser,
 - 2—"BWZ" "Trim-Air - Neutralizer - to - Midway" Brackets.
 - 2-ZS-7-SS "Trim-Air" Neutralizers.
 - 1-Pair "BW" Jack Bar Mounting Brackets.
 - 1-Pair "M" Mounting Brackets.
- Type "AFU" Foundation, assembled... Net \$7.99 each

★ "MIDWAY" FEATHERWEIGHT MOUNTING FEET

Heavy aluminum as supplied with stock Midways, with two screws.
(Standard package—25 pairs) Net Price...per pair \$1.2

MISCELLANEOUS ACCESSORIES

★ INDUCTANCE CLIPS

For tapping air-wound inductors—Cadmium plated phosphor bronze spring clips for No. 12 or 14 wire. Thin blades prevent shorting turns.

Type 804-A (standard package 50) Net Price per unit \$0.08

★ ROTOR LOCK

For locking "X" standard or "M" Midway rotor shafts in position for fixed tune. Can be set behind panel or attached to any 1/4" shaft, mounted directly on front of panel. Nickel plated brass; diameter 1-1/2".

Type ARL Rotor Lock (std. pkg. 12) Net Price per unit \$0.36

★ SHAFT LOCK PANEL BUSHING

Long panel bushing for 1/4" shafts, has tapered nut for locking shaft in position. Fits 3/8" hole in panel. Complete with panel nuts. Nickered brass.

Type ALB (standard package—25) Net Price per unit \$1.12

★ TYPE "BW" BRACKETS

Fit CARDWELL MT-100-GD Midway condensers and mount Barker & Williamson type "B" Jack Bar on same. Upside down mounting with type "M" brackets eliminates leads to inductors and permits complete coverage of all bands 5 to 80 meters inclusive, with the one condenser. Brackets are heavy aluminum, satin finish. Type BW—Jack Bar Brackets.

(Standard package—12 pair) Net Price...per pair \$2.1

★ TYPE "BWZ" BRACKETS

Trim-Air Neutralizer Brackets. Fit any Midway and permit mounting Trim-Air neutralizers directly on Midway condensers. Used with BW brackets to complete 100 watt tank circuit assembly described above, with ZS-7-SS Trim-Airs to neutralize T-40's or similar tubes.

Type BWZ—"Trim-Air to Midway" Neutralizer Bracket.
(Standard package—25) Net Price...per unit \$1.1

★ TYPE "M" BRACKET

Use with type "N" U.H.F. duals or "M" Midway condensers—Turns condenser upside down for shortest plate leads in balanced R.F. amplifier. Regular mounting feet can be used to support a tank coil or jack base. Made of strong, satin finished, 1/16" aluminum, and supplied with proper screws and lock washers.

(Standard package—25) Net Price...per unit \$1.2

★ "TRIM-AIR" MOUNTING BRACKET

For dual and single Trim-Air condensers. Insulated from rotor and stator; N.P. brass, with two screws and nuts.

(Standard package—25) Net Price...per unit \$0.06

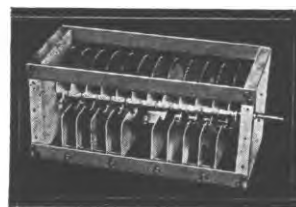
★ "STANDARD" TYPE "X" MOUNTING FEET

Heavy nickel plated brass, as supplied with stock "X" transmitting types, with four screws.

(Standard package—25 pair) Net Price...per pair \$1.2

TYPE "P" LIGHT WEIGHT CONDENSERS

FOR COMMERCIAL AND AMATEUR HIGH POWER TRANSMITTERS



END PLATES—Stamped and folded 1/8" aluminum 7-1/2" square, satin finish. MOUNTING—On any side. ROTOR CONTACTS—Heavy disc to double finger wipers on each end of condenser. INSULATION—High frequency G.E. Mycalex. No metal tie rods. ROTOR PLATES—.0625" thick, 6-3/4" diameter, buffed and polished aluminum.

Type	Per Section		Plates	Air-gap	Depth Back Panel	Net Price
	Max. Cap.	Min. Cap.				
PKD-70-QD	70		7	.350"	8-3/4"	\$34.80
PKD-100-QD	95	22	9	.350"	12"	39.80
PZ-70-QD	75		9	.500"	14"	41.70
PZ-100-QD	95	26	11	.500"	16"	46.50

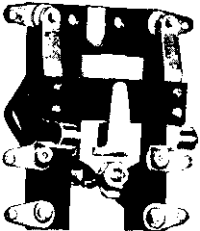
Specials made to customers requirements. Inquire.

Printed in United States of America.

DUNCO RELAYS FOR AMATEUR USE

"Dunco Means Dependability"

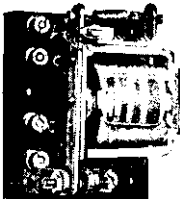
DUNCO RADIO RELAY



These relays have two isolated contacts for operation in low or high voltage circuits at any frequency. For the first time in an inexpensive relay, the two poles are sufficiently spaced and shielded from each other so that the amplifier input may be handled by one pole and the output from the same amplifier may be handled by the other pole without feed back. Similarly 60-cycle power currents may be handled by one pole and voice frequencies by the other without the introduction of hum. Outstanding features include: low contact resistance; single break contacts are used instead of double break to further reduce resistance; extremely fast operation suitable for bug keying; high voltage and current carrying and breaking capacity; resistance to vibration, making the relay suitable for use on autos, trains, elevators, boats, etc.

Type	Operates on	List Price*
RA-1	2.5 volts, 60 cycles, A.C.	\$3.00
RA-2	2.5 volts, 25 cycles, A.C.	3.00
RA-3	6.3 volts, 60 cycles, A.C.	3.00
RA-15	115 volts, 60 cycles, A.C.	5.25
RD-1	5 to 6 volts, D.C.	3.00
RD-15	10 to 12 volts, D.C.	4.50

DUNCO VACUUM TUBE RELAY

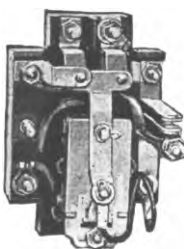


Relay type CXB51 is an ultra sensitive unit designed for direct current in the coil circuit and either direct or alternating current in the contact circuit. It has single pole, double throw contacts, making one circuit when the coil is energized and another circuit when the coil is de-energized. The coil has a resistance of 10,000 ohms and it will safely carry currents up to 18 milliamperes. Adjustments are provided that will cause the relay to operate on any desired current value down to one milliampere. This unit is particularly adapted to operation in the plate circuit of small vacuum tubes. Contacts are rated 2 amperes at 110 volts, A.C.

Size: 2 7/8" High x 2 1/4" Wide x 2" Deep
Dunco Relay, Type CXB51

Net Price \$5.50

DUNCO TIME DELAY RELAY



This time delay relay is provided with a snap-on housing and with panel mounting studs for back of panel connections. The input terminals should be connected across the primary of the filament transformer, and the output terminals to the primary of

the plate transformer. Power will then be delivered to the plate transformer 30 seconds after the filaments are turned on, greatly increasing the life of tubes, particularly of the hot cathode mercury vapor type. This unit is suitable for use with plate transformers up to 500 watts capacity if the rectifier feeds directly into a condenser or up to 1,000 watts if a choke precedes the first condensers in the filter system.

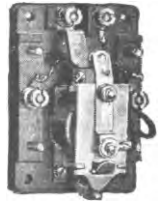
Size: 3" High x 2 1/8" Wide x 2-5/16" Deep
Including Cover
Dunco Relay, Type TD-327

Net Price \$8.80

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DUNCO MIDGET KEYING RELAY

This midget keying relay is suitable for speeds up to 40 words per minute. Contacts are large fine silver buttons assuring long life and may be easily replaced. Coil consumes only 50 milliamperes at 110 volts, 60 cycles, while contacts will interrupt currents of 6 amperes at 110 volts, A.C. The unit is designed for mounting on vertical panel and is recommended for loads up to 660 watts. The contacts are single pole, and close when the coil is energized.



Size: 2 3/4" High x 1 7/8" Wide x 1 3/4" Deep

Dunco Relay, Type ASBX1

Net Price \$3.75

DUNCO RADIO FREQUENCY RELAY

Dunco relay type CXA1946 has been developed for use with low power radio transmitters. The contacts are double pole, double throw rated 6 amperes at 500 volts R.F. This unit is mounted on a mica base and a mica cross arm insulates the moving contacts from the armature. Relay is designed for vertical mounting. Standard coil is for operation on 115 volts, 60 cycles and consumes 4 watts. Other voltage coils are available.



Size: 3" High x 2" Wide x 2 1/4" Deep

Dunco Relay, Type CXA-1946

Net Price \$5.25

DUNCO REMOTE CONTROL RELAY

This power type relay handles loads up to 20 amperes at 220 volts, or 25 amperes at 110 volts. It is of particular service in remotely controlled transmitters, receivers, motors, or other loads of any nature within its rating. Provisions are made so that the mercury contact will make when the coil is energized and break when the coil is de-energized or vice versa. An outstanding feature is that it is completely silent in operation—no humming or chatter occurs when the coil is energized. Another outstanding feature is that due to mercury to mercury contacts there is no sticking or burning of contacts. Sturdy Pyrex enclosed contacts are employed. Standard coils are for operation on 110 volts, 60 cycles, but other coils are available. This unit is designed for vertical panel mounting.



Size: 5" High x 4" Wide x 2 5/8" Deep

Dunco Relay, Type CX-2658 Single Pole

Net Price \$10.00

STANDARD DUNCO RELAYS

DUNCO RATCHET RELAY



Energizing the coil of this relay moves a pawl, engaging a ratchet which moves cams to open or close the contacts. The contacts remain in the same position until the coil is de-energized and again energized. By factory adjustment of the cams the relay may be made single pole, double break; double pole, single break; or single pole, double throw, single break.

This relay may be used for applications where a number of operations must be performed in a given sequence.

Contacts are rated 20 amperes at 110 volts, A.C., non-inductive or 1/4 h.p.

Size: 5" High x 3" Wide x 2 3/4" Deep

Dunco Relay, Type CX-464

Net Price

\$14.00

DUNCO MECHANICAL LATCH RELAY



This relay is furnished with two coils. Energizing one coil picks up the armature which latches closed. Energizing the other coil picks up the latch and allows the armature to drop out. This relay may be used with normally open push buttons, thermostats, etc. for the remote control of transmitters, receivers, motors or other loads within its rating

of 30 amperes at 110 volts, A.C. Standard coils are for operation on 110 volts, 60 cycles but other coils are available. Designed for vertical panel mounting.

Size: 4 1/2" High x 3 1/4" Wide x 2 3/4" Deep

Dunco Relay, Type ABUY5N

Net Price

\$8.75

DUNCO TIME DELAY RELAY



This time delay relay is of the immediate-recycling type and is compensated for changes in ambient temperature. The recycling feature is obtained by making use of both the heating and cooling times to make up the total time delay.

The timing is adjustable from 30 to 45 seconds (total).

Coil 110 Volts, 60 Cycles

Contacts 110 volts, A.C., 6 Amperes

Size: 5" High x 4" Wide x 1 3/4" Deep.

Dunco Relay, Type TD-97

Net Price

\$12.00

H-42

DUNCO POWER RELAYS



These relays are rated 30 amperes at 110 volts, A.C., or 4 amperes at 115 volts, D.C. (double break types are rated 6 amperes, D.C.) on non-inductive loads. Specify coil voltage and frequency when ordering:

Type	Contact Arrangement	Size	Net Price
ABYT8	SP DB front contact	4 1/4 x 3 x 2 7/8	\$6.50
ADBT8	DP SB front contact	4 1/4 x 3 x 2 7/8	8.50
BBUK8	SP DB back contact	5 x 3 x 3	8.25
BDBK8	DP SB back contact	5 x 3 x 3	9.50
CBBP8	SP DB double throw	6 1/4 x 3 x 3	11.00
COBP8	DP SB double throw	6 1/4 x 3 x 3	11.00

These relays may be furnished with any desired number of poles.

OTHER DUNCO MIDGET RELAYS

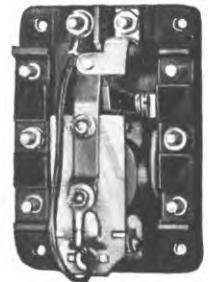
Contacts rated 6 amperes at 110 volts, A.C., 1 ampere at 116 volts, D.C. on non-inductive loads.

Coils up to 50 Volts D.C. or 135 Volts, 60 Cycles

Size: 2 3/4" High x 1 7/8" Wide x 1 7/8" Deep

Type	Contact Arrangement	Net Price
ABTX1	SP DB front contact	\$3.75
ABTX1P	SP DB front contact with pigtail	4.00
ADBX1	DP SB front contact	4.75
BSBX1	SP SB back contact	3.75
CSBX1	SP SB double throw	4.00
CDBX1	DP SB double throw	5.25

DUNCO OVERLOAD RELAY



This overload relay is designed to pick up and open its contacts when the current in the coil is 5 amperes or more. When the armature picks up, the latch holds the contacts open, breaking the coil circuit. It is then necessary to trip the latch manually to reclose the contacts.

This relay may be used in any circuit where it is desirable to protect against overcurrent of 5 amperes. It is arranged for switchboard mounting with bakelite cover, mechanical latch, manual reset with the reset button extending through the cover.

Other coils are available. Specify current and frequency.

Size: 3" High x 2 1/8" Wide x 2-5/16" Deep

Dunco Relay, Type CXE-1846

Net Price

\$7.25

NET

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BLILEY CRYSTAL UNITS

TYPE HF2 MOUNTED CRYSTAL FOR THE 10 AND 20-METER BANDS



A fully dependable crystal unit for the 10 and 20-meter amateur bands. Engineered by Bliley, this precision-ground crystal simplifies the construction of 5, 10 and 20-meter transmitters by reducing the necessary number of frequency multiplications to a minimum. In use, the HF2 Unit for 20-meters is directly applicable to conventional circuits. With the HF2 10-meter Unit, specifically

recommended for 5-meters, certain circuit considerations are necessary for maximum performance—for details, consult Engineering Bulletin E-6.

Type HF2—14.0 to 14.4 MC., drift +20 cycles/mc./°C., within 15 KC. of specified frequency*.....	Net	\$5.75
Within 5 KC. of specified frequency.....	Net	\$10.00
14.4 to 15.0 MC., drift +20 cycles/mc./°C., within 30 KC. of specified frequency*.....	Net	\$5.75
Within 5 KC. of specified frequency.....	Net	\$15.00
28.0 to 30.0 MC., drift +43 cycles/mc./°C., within 50 KC. of specified frequency.....	Net	\$5.75

*Or choice from dealer's stock.

TYPE BC3 MOUNTED CRYSTAL FOR THE 40, 80 AND 160-METER BANDS

Thoroughly reliable in every respect, this economically priced crystal unit has found wide favor with amateurs throughout the world. The accurately cut crystal is an active oscillator and has a drift of only 23 cycles/mc./°C. Heat, developed by the crystal during oscillation, is dissipated by the stainless-steel holder cover-plate. This design assures greatest stability by limiting the temperature rise of the crystal.

Type BC3—within ±5 KC. of specified frequency in the 40 or 80-meter bands*.....

NET **\$3.35**

Within ±10 KC. of specified frequency in the 160-meter band, (+) drift.

NET **\$3.35**

At exact integral specified KC's. in the 40 or 80-meter bands.

NET **\$4.95**

*Or choice from dealer's stock.



TYPE B5 MOUNTED CRYSTAL FOR THE 20 AND 40-METER BANDS

The type B5 low-drift crystal unit offers high frequency stability at a reasonable cost. This complete unit, consisting of the precision-ground crystal and its compact low-loss holder, is thoroughly engineered and has a drift of less than ±4 cycles/mc./°C.

The B5 Unit for 40-meters possesses high activity and a comparatively large power handling capacity. For 20-meters, it has less

than 1/5 the frequency drift of the type HF2 Unit with only a small decrease in relative activity and power output.

Type B5—7.0 to 7.3 MC., within 5KC. of specified frequency*.....	Net	\$4.80
Frequency to exact integral specified KC's....	Net	\$5.90
14.0 to 14.4 MC., within 15 KC. of specified frequency*.....	Net	\$7.50
Within 5 KC. of specified frequency.....	Net	\$12.00
14.4 to 15.0 MC., within 30 KC. of specified frequency*.....	Net	\$7.50

*Or choice from dealer's stock.



TYPE LD2 MOUNTED CRYSTAL FOR THE 80 and 160-METER BANDS

The type LD2 Unit is a mounted, precision low-drift crystal for the 80 and 160-meter amateur bands. The crystal is carefully cut from selected Brazilian Quartz, lapped to exacting limits, accurately calibrated and rigidly tested. It possesses high activity and has a frequency drift of less than ±4 cycles/mc./°C. The mounting is low-loss molded Bakelite with the crystal held under constant spring pressure between two stainless-steel electrodes. The unit plugs into any

standard 5-prong tube socket and may be mounted in any position.

Type LD2—Within 5 KC. of specified frequency or choice from dealers stock.

NET
\$4.80

Supplied to exact integral specified KC's.

NET
\$5.90



Engineering Bulletin E-6, FREQUENCY CONTROL WITH QUARTZ CRYSTALS, should be read by every engineer, amateur or experimenter interested in frequency control or the measurement of radio frequencies. Price, 10c per copy (Canada 15c).

BLILEY CRYSTAL UNITS

VARIABLE FREQUENCY CRYSTAL UNIT

TYPE VF1



Pat. No. 2,079,540

Enjoy clear channels with a variable frequency crystal unit. By a mere twist of the control knob, your station frequency is continuously variable up to 6 KC. with the 80-meter unit or 12 KC. with the 40-meter unit. When frequency multiplying, the variation is proportionately increased.

The specially ground crystal has a drift of less than ± 4 cycles/mc. $^{\circ}$ C. and an activ-

ity only slightly less than that of corresponding fixed-frequency crystals. With the average transmitter, no changes in tuning will be required over the entire adjustable range of the VF1 Unit.

Type VF1—Within 5 KC. of specified minimum frequency in the 80-meter band.....	Net	\$6.60
Minimum frequency at exact integral specified KC's., in the 80-meter band.....	Net	\$8.50
Type VF1—Within 15 KC. of specified minimum frequency in the 40-meter band.....	Net	\$6.60
Within 5 KC. of specified minimum frequency in the 40-meter band.....	Net	\$8.50

CALIBRATOR CRYSTAL UNIT

TYPE SMC100

The type SMC100 Crystal Unit offers a simple means for constructing a flexible, inexpensive frequency standard. Its dual-frequency feature is advantageous for rapidly checking the calibration of radio receivers, test oscillators, signal generators or amateur monitors. Radio servicemen will find a frequency standard using a type SMC100 Unit to be an invaluable servicing instrument.

By shunting a small variable condenser across the crystal, the 100kc. frequency can be adjusted to exact value at normal room temperatures. The 1000kc. frequency is correct within $\pm .05\%$.

Type SMC100—100 KC.—
1,000 KC. mounted crystal.
NET

\$7.75

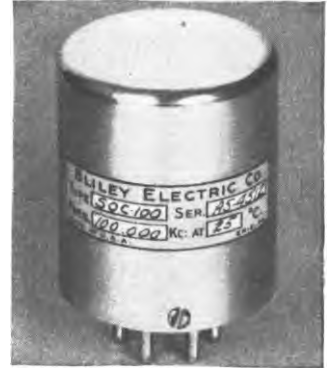


STANDARD FREQUENCY CRYSTAL UNIT

TYPE SOC100

A 100 KC. mounted crystal of high precision designed for use in frequency standards. This unit, in a simple circuit, provides reliable accuracy for calibration of frequency meters, test oscillators, radio receivers, or for frequency measurements in general.

The rigidly mounted crystal has a frequency-temperature coefficient of less than ± 3 cycles/mc. $^{\circ}$ C., which value is sufficiently low that temperature control is not necessary for general practice. Included in the aluminum shielded mounting is a tank coil of the proper characteristics for use with this crystal. The complete unit plugs into any standard 5-prong tube socket and may be mounted in any position. Circuit instructions furnished.



Type SOC100.....	Net	\$15.50
Type SOC100, calibrated at specified oven temperature.....	Net	\$21.00
Type SOC100X—Mounted 100 KC. X-cut bar, (no tank coil included).....	Net	\$9.50

BLILEY CRYSTAL FILTER

TYPE CFI

A high-frequency receiver is not complete unless it incorporates a quartz crystal filter. Only through the use of an effective intermediate-frequency filter is it possible to obtain the high degree of selectivity necessary for modern communications.

The Bliley CFI Crystal Filter Unit, with its high Q and freedom from spurious responses, assures maximum selectivity and minimum signal loss. Each crystal is carefully ground to frequency and rigidly

tested in equipment simulating actual receiver conditions. The low-loss Steatite holder plugs into any standard 5-prong tube socket.

Type CFI — for 456 KC.,
465 KC. or 500 KC. I.F.

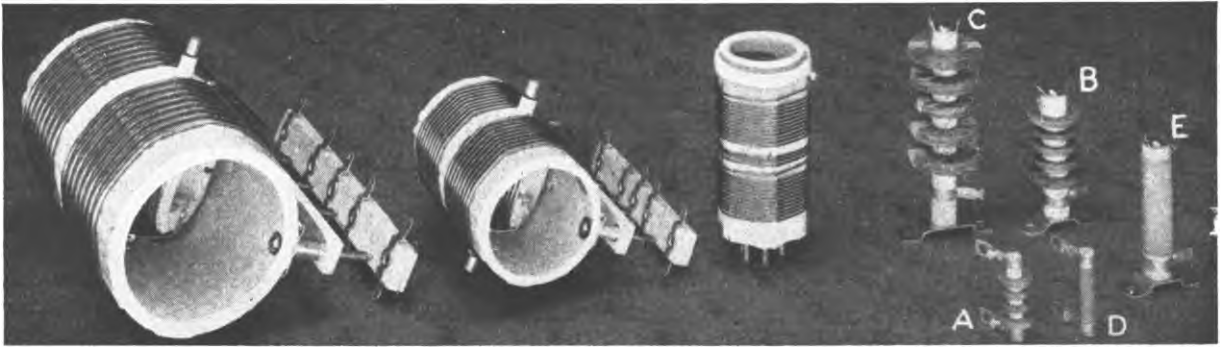
NET
\$5.50

For 1600 KC. I.F.

NET
\$9.50



Bliley General Communication Frequency Crystals and Mountings are manufactured for all frequencies from 20 KC. to 30 MC. Quotations or recommendations will gladly be extended upon receipt of detailed information concerning your requirements.



ROTATING COIL "HI-Q" INDUCTORS

New "HI-Q" inductors contain rotating coupling coils which permit adjustment of interstage or output coupling of any circuit as desired. Adjustment may be made from a panel by means of shaft coupling units. These coupling coils provide means of working directly into a non-resonant line without coupling or matching networks. Ten, 20 and 40 meter units couple into as high impedance as 600 ohms—an extremely desirable feature due to the widespread use of high impedance non-resonant lines at these frequencies. The loads into which the 80 and 160 meter units will couple is of course somewhat less but both easily couple into 75 ohms, a commonly used value on these bands.

Wound on ceramic forms, ribbed to provide small surface between winding and insulating material, these inductors effectively resist temperature, atmospheric and mechanical conditions which render inoperative coils supported by thermo-plastic material.

Two sizes are supplied, one for inputs up to and including 350 watts and the other for inputs up to and including 1000 watts. For all bands 10 to 160 meters inclusive.

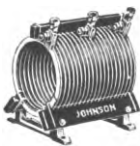
For capacity coupled stages and other applications inductors are supplied less coupling coil. Inductor forms, plug bars and jack bases may be purchased separately for making up special inductors. Forms include no base nor mounting hardware.

TUBE-SOCKET "HI-Q" INDUCTORS

As their name indicates these inductors are designed to mount in live prong tube sockets such as the Johnson No. 225. Rated at 100 watts input they are ideal for oscillator, buffer and low power amplifier stages. Wound on low loss ceramic forms, the winding supported on ribs for small insulation contact, roughened to prevent slipping, these inductors are unaffected by ordinary heat and moisture. Mounting holes are provided for mounting a Type J condenser inside the form thus making a very compact LC unit.

Two types are supplied, one center tapped with the coupling winding at the center for neutralized stages or those using plate to grid regeneration in doubler stages, and the other with coupling winding at the bottom for unneutralized stages, such as oscillators, doublers, and pentode amplifiers. Coupling windings on all types are for low impedance lines. Terminal permits taking plate lead off top of coil or at socket.

EDGEWISE WOUND "HI-Q" INDUCTORS



Wound with plated edgewise copper strip and supported by low loss hard rubber insulation these inductors present a very commercial appearance and safely handle up to 1000 watts. Sizes for all bands and for impedance matching networks. Plug-in units require two 4576J and three 40J insulators for mounting.

LC4—Inductor Clips for above, Code: CLINIC.

List \$20

RADIO FREQUENCY CHOKES

Johnson "750" series of r.f. chokes are effective over the wide frequency range from 1712 kc to 30 mc with no resonant points throughout. They are particularly well suited for use with parallel fed circuits where high choke impedance is essential.

The "760" series are designed for use at ultra high frequencies and will be found as effective at these frequencies as the "750" series is at the lower frequencies.

Coils are of enameled silk-covered wire, impregnated with high grade r.f. lacquer, and are wound on steatite cores. Current ratings are for continuous service and may be increased for intermittent use.

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ROTATING COIL "HI-Q" INDUCTORS

Cat. No.	Band (Meters)	Cap. mmf.	Coupling	Dimensions L x D	Watts Input	Code Word	List Price
660	10	26	Rotary	4 1/8" x 2"	350	INHAN	\$3.75
661	20	33	Rotary	4 1/8" x 2 1/2"	350	INHEP	3.95
662	40	40	Rotary	4 1/8" x 2 1/2"	350	INHIO	4.10
663	80	75	Rotary	4 1/8" x 2 1/2"	350	INHOR	4.25
664	160	150	Rotary	4 1/8" x 2 1/2"	350	INHUS	4.40
670	10	26	None	4 1/8" x 2"	350	INMUH	1.95
671	20	33	None	4 1/8" x 2 1/2"	350	INMAL	2.10
672	40	40	None	4 1/8" x 2 1/2"	350	INMEK	2.20
673	80	75	None	4 1/8" x 2 1/2"	350	INMIJ	2.30
674	160	150	None	4 1/8" x 2 1/2"	350	INMOI	2.40
666			Form only	4 1/8" x 2"		INJAT	.80
667			Form only	4 1/8" x 2 1/2"		INJEV	.85
668			Ultra-steatite Plug Strip for 666 and 667			INJTW	1.00
669			Ultra-steatite Jack Base for Mounting above Inductors			INJOX	1.00
680	10	26	Rotary	6 3/4" x 2 3/4"	1000	INKAY	5.20
681	20	26	Rotary	6 3/4" x 3 1/2"	1000	INKEZ	5.55
682	40	42	Rotary	6 3/4" x 3 1/2"	1000	INKIX	5.75
683	80	70	Rotary	6 3/4" x 3 1/2"	1000	INKOW	5.90
684	160	140	Rotary	6 3/4" x 3 1/2"	1000	INKUV	6.00
690	10	26	None	6 3/4" x 2 3/4"	1000	INNAG	3.00
691	20	26	None	6 3/4" x 3 1/2"	1000	INNEF	3.25
692	40	42	None	6 3/4" x 3 1/2"	1000	INNID	3.40
693	80	70	None	6 3/4" x 3 1/2"	1000	INNOG	3.50
694	160	140	None	6 3/4" x 3 1/2"	1000	INNUG	3.65
686			Form only	6 3/4" x 2 3/4"		INLAS	1.45
687			Form only	6 3/4" x 3 1/2"		INLER	1.55
688			Ultra-steatite Plug Strip for 686 and 687			INLIP	1.50
689			Ultra-steatite Jack Base for Mounting above Inductors			INLON	1.50

TUBE-SOCKET "HI-Q" INDUCTORS

640	10	24	Link at Center	**	100	INFAB	1.65
641	20	33	Link at Center	**	100	INFEC	1.65
642	40	37	Link at Center	**	100	INMID	1.65
643	80	71	Link at Center	**	100	INFOD	1.65
644	160	130	Link at Center	**	100	INFUG	1.65
650	10	36	Link at Bottom	**	100	INGAH	1.55
651	20	58	Link at Bottom	**	100	INGEJ	1.55
652	40	70	Link at Bottom	**	100	INGIK	1.55
653	80	75	Link at Bottom	**	100	INGOL	1.55
654	160	110	Link at Bottom	**	100	INGUM	1.55
646			Form Only, Four Prong	**		INLUL	.80
647			Form Only, Five Prong	**		INMAK	.80

** All types 3/2" long exclusive of prongs. Winding diameter, 1 3/4".

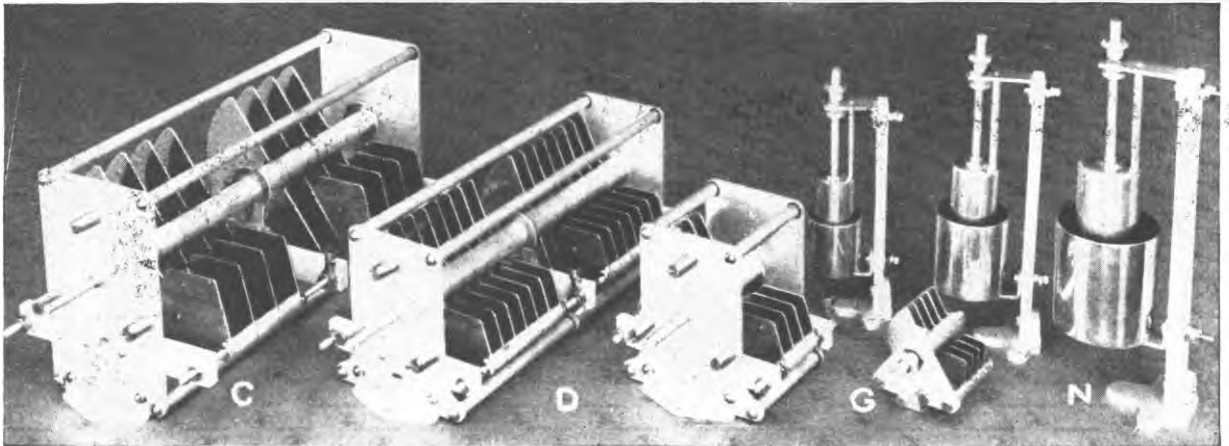
EDGEWISE WOUND "HI-Q" INDUCTORS

Plug-in								
630	160	100	Taps	8" x 4"	1000	INCAB	8.30	
632	80	75	Taps	8" x 3 1/4"	1000	INCEC	6.25	
634	40	45	Taps	8" x 2 1/2"	1000	INCID	5.50	
636	20	30	Taps	8" x 2"	1000	INCOF	5.10	
638	10	25	Taps	8" x 2"	1000	INCOG	4.80	
Fixed								
610		33 mh impedance matching		7 3/4" x 2 1/2"	1000	INCA	5.45	
611		14 mh impedance matching		4" x 2 1/2"	1000	INARC	3.60	
620		160	100	None	9" x 4"	1000	INSTEP	6.75
622		80	50	None	6 1/2" x 3 1/4"	1000	INSULT	5.15
624		40	25	None	6" x 3 1/4"	1000	INSURE	4.20
626		40	50	None	5" x 2 1/2"	1000	INTACT	3.50
628		20	30	None	4 3/4" x 2 1/2"	1000	INTEND	3.00
619		20 mh coupling inductor		3 1/4" x 4"	1000	INTER	3.35	
623		8.1 mh coupling inductor		2 1/4" x 3 1/4"	1000	INTOMB	2.75	
627		2.2 mh coupling inductor		1 1/2" x 2"	1000	INTONE	2.40	

* Total circuit capacity required to effect resonance at low frequency end of band. Actual condenser capacity will be smaller by the sum of the tube output and wiring capacities, generally between 5 and 20 mmf.

RADIO FREQUENCY CHOKES

Cat. No.	Frequency	Current Rating	Illustration	Code Word	List Price
750	1.7 to 30 mc	150 ma	A	CHOAB	\$0.60
752	1.7 to 30 mc	500 ma	B	CHOEC	1.25
754	1.7 to 30 mc	750 ma	C	CHOED	2.15
760	Ultra-high	250 ma	D	CHOOF	.45
762	Ultra-high	1500 ma	E	CHOUG	.75



GENERAL CONDENSER INFORMATION

The approximate voltage breakdown rating of any Johnson condenser (excepting Type N) can be obtained by multiplying the number following the type letter in the catalog number by 100. Voltage breakdown for dual condensers, sections in series, rotor ungrounded, is approximately twice that of a single section. All capacities shown are per section. Maximum capacity of a dual section condenser in series is slightly more than one-half that of a single section; minimum capacity in series is approximately 2/3 the minimum capacity of a single section.

TYPE C AND D CONDENSERS

Johnson C and D condensers are sturdily constructed to give trouble-free operation under the most severe service. Only the finest materials are employed, yet these units are lower in price than any other quality condensers. Although value is evident throughout the line the models designed for high power applications are particularly outstanding.

All dual models have center rotor connections to insure balanced operation at ultra-high frequencies.

Important features include: **Heaviest plates** of any similar condensers, .051" thick . . . **Ultra-steatite insulation** . . . **Large laminated rotor brushes**, center rotor contacts on all dual condensers . . . **Heavy 1/4" diameter tie rods**, for frame strength and rigidity, insulated to prevent "short circuit loops" . . . **1/4" steel shafts**, cadmium plated, extending 1 1/2" in front, 3/4" in rear permitting ganging or rear drive. Panel space Type D, 4 1/4" wide x 4" high; Type C, 5 1/2" wide x 5 3/8" high.

TYPE G CONDENSERS

The design of the Type G condenser results in an exceptionally low minimum capacity for a rotating plate condenser. It is widely used for neutralizing both low C tubes and older types such as the 211, 203A, etc., models being available for all types. It is also well suited for grid and plate tuning especially at high frequencies.

Features include: A **single end plate of ultra-steatite** which contributes to the **low minimum capacity**. Bracket permits **chassis mounting with a single hole**. Mounting posts are also supplied for **panel mounting**. With both methods **rotor and stator sections are insulated** from the mounting surface.

Rotor and stator plates are of aluminum, .032" thick. A **locking nut** permits locking at any setting. **Shaft extends front and rear**. Panel space required, 2" x 2".

TYPE N CONDENSERS

Small mounting space requirements, extremely high voltage rating in proportion to size, fine adjustment with uniform voltage breakdown throughout the full capacity range, and low cost make these neutralizing condensers ideal for the modern transmitter. "Plates" are aluminum cups supported on an ultra-steatite frame with cast aluminum mounting bracket.

Because of the design these condensers will stand much higher voltage than conventional flat plate condensers of the same spacing.

Type N125 for plate voltages up to 1500 volts, plate modulated; type N250 for plate voltages up to 2500 volts, plate modulated; type N375 for plate voltages up to 3500 volts, plate modulated. This is not to be confused with peak voltage ratings which are several times those shown.

TYPE D CONDENSERS SINGLE SECTION

Cat. No.	Capacity*		Spacing	Length**	Code Word	List Price
	Max.	Min.				
50D35	49	11	.080"	2 1/2"	COACH	\$5.00
100D35	100	14	.080"	2 3/4"	COAST	5.75
150D35	152	18	.080"	2 7/8"	COBRA	6.50
250D35	257	24	.080"	4 1/2"	COCK	8.00
350D35	347	27	.080"	5 1/2"	COCOA	9.50
500D35	501	36	.080"	6 1/2"	COG	11.75
50D70	51	16	.175"	2 3/4"	COIL	6.50
70D70	72	18	.175"	4 1/4"	COJUT	7.40
100D70	100	23	.175"	4 3/4"	COLD	8.25
150D70	151	31	.175"	6 1/4"	COLIC	10.00
250D70	244	45	.175"	10 1/2"	COLOR	13.50
350D70	351	62	.175"	13 1/2"	COUCH	17.00
50D90	54	19	.250"	4 3/4"	COULD	7.00
70D90	73	24	.250"	5 1/4"	CORAC	8.00
100D90	99	30	.250"	7 1/4"	COUNT	9.00
150D90	149	43	.250"	10 1/2"	COUPE	11.50
250D90	249	70	.250"	15 7/8"	COVER	16.00

TYPE D DUAL SECTION

100DD35	99	12	.080"	4 1/2"	COMA	8.25
150DD35	151	15	.080"	5 1/4"	COMET	9.75
200DD35	202	19	.080"	7 3/8"	COMIC	11.50
300DD35	291	23	.080"	9 1/2"	COOL	16.00
500DD35	504	37	.080"	13 1/2"	COSEJ	22.50
150DD45	155	22	.125"	9 1/2"	COJIR	13.00
50DD70	50	13	.175"	5 1/4"	COJEQ	9.00
70DD70	72	16	.175"	7 1/4"	COPAL	10.50
100DD70	99	21	.175"	9 1/2"	COPE	12.50
150DD70	151	31	.175"	13 1/2"	CORAL	16.00
200DD70	200	40	.175"	16 3/8"	CORK	19.50
50DD90	52	19	.250"	9 1/2"	COW	11.50
100DD90	97	29	.250"	14 3/8"	COZY	16.50

TYPE C SINGLE SECTION

500C70	496	56	.175"	12 3/4"	COBAB	21.00
250C90	245	45	.250"	12 7/8"	COLOB	17.00
350C90	343	63	.250"	14 3/8"	COBEC	20.60
50C110	51	19	.350"	4 3/8"	COBID	9.00
100C110	102	30	.350"	8 3/8"	COBOF	11.80
250C110	251	65	.350"	18 3/8"	COBUG	20.80
50C130	50	23	.500"	7 3/8"	COCAH	9.90
100C130	101	41	.500"	13 1/2"	COCEK	14.10

TYPE C DUAL SECTION

300CD45	295	26	.125"	10 1/2"	COJOS	21.50
200CD70	198	27	.175"	12 3/4"	COLUC	21.00
150CD90	150	29	.250"	14 3/8"	CORED	22.00
200CD90	196	38	.250"	18 3/8"	COCIL	26.50
50CD110	50	18	.350"	10 1/2"	COCOM	14.50
65CD110	65	20	.350"	12 7/8"	COSIK	16.50
100CD110	103	32	.350"	16 3/8"	COCUN	21.50
50CD130	50	23	.500"	14 3/8"	CODAP	16.75

.060 spacing supplied in either C or D types, also special capacities and spacings.

TYPE G SINGLE SECTION

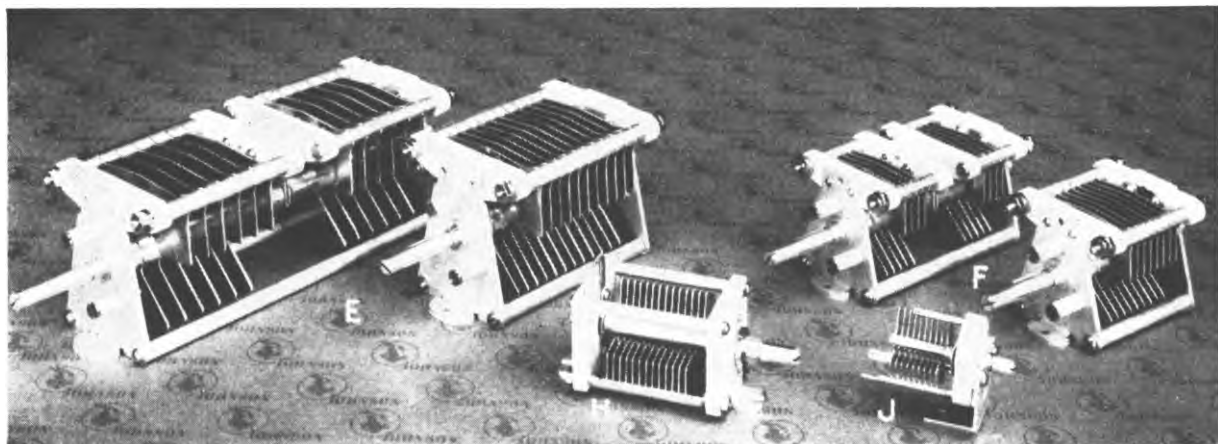
25G20	27	3.5	.045"	2 1/2"	COOXE	2.50
50G20	52	5	.045"	1 3/8"	COOVA	2.80
8G45	7.5	3	.125"	1"	COOBU	2.30
13G45	13	4.3	.125"	1 1/8"	COOZO	2.50
23G45	23	6.3	.125"	1 1/4"	COOYI	2.80
6G70	5.5	3	.225"	1 1/4"	COPES	3.00
12G70	12	5.3	.225"	2 1/8"	COPAR	3.75

* Capacity per section.

** Length over end plates.

TYPE N

N125	12	2.5	.125"	6 1/2"	COGIF	\$4.50
N250	12	2.9	.250"	7 5/8"	COGOG	4.90
N375	13	3.4	.375"	8 7/8"	COGUH	6.00



TYPES E AND F CONDENSERS

For applications requiring husky transmitting condensers of small size, Johnson Types E and F are ideal. Their rapid adoption by manufacturers of high grade equipment and discriminating amateurs is ample proof of their excellence.

The large variety of spacings and capacities available greatly simplifies the selection of a condenser for a particular application. In addition to the spacing shown, .030" can also be supplied.

Dual models are provided with a center rotor connection in order to insure perfect operation at ultra-high frequencies. This coupled with very low minimum capacities in proportion to maximum values make these units particularly well suited to u.h.f. applications.

Features include: **Heavy aluminum plates** .032" thick, edges rounded and buffed overall; **Heavy tie rods** 1/4" diameter for frame strength and rigidity; **Ultra-steatite insulation**; Stator mounted above to reduce capacity to ground; **Chassis or panel mounting**; **Rotor shaft extended** front and rear permitting ganging or rear drive; **Heavy phosphor bronze contact springs**, cadmium plated.

Panel space, Type E 2 5/8" x 2 1/2"; Type F 2 1/8" x 2".

TYPE H CONDENSERS

Newest addition to the Johnson condenser line is the Type H, particularly designed for light weight and extreme rigidity. It is especially well suited for use in aircraft and other portable-mobile transmitters. Capacities and spacings are provided for oscillator and low and medium power amplifier stages. The use of Ultra-steatite for both end plates avoids any possibility of short circuit "loops" and hence increases the suitability for high frequency service.

Features include: **Ultra-steatite insulation**; **Single hole mounting**; also **universal mounting brackets** for mounting in any position; **Aluminum plates** .020 thick; **Positive rotor contact** with integral soldering terminal; **Extremely light weight**. Panel space 1 5/8" x 1 5/8".

TYPE J CONDENSERS

The smallest condenser in the Johnson Line, this unit is excellent for use where extremely limited space is available. It is particularly well suited for use in oscillator and low power buffer stages. Special brackets are supplied which permit mounting inside Johnson "Tube-Socket" type inductors thus providing an extremely compact LC unit. Panel or chassis mounting may also be used.

Features include: **Ultra-steatite end plate**, soldered **brass plates**, cadmium plated. Spacing in all models .025". Panel space 1 1/4" x 1 1/8".

TYPE J SINGLE SECTION

Cat. No.	Capacity Max.	Capacity Min.	Spacing (Inches)	Length (Inches)	Code Word	List Price
7712	7	2	.025"	1 1/8"	COSUM	\$1.25
15112	15	2.5	.025"	1 3/8"	COTAN	1.30
25112	28	3.5	.025"	1 5/8"	COHEL	1.35
50112	55	4.3	.025"	1 7/8"	COHIM	1.50
75112	74	5	.025"	1 7/8"	COHON	1.65
100112	102	7	.025"	2 1/8"	COJAP	1.80

TYPE F CONDENSERS SINGLE SECTION

Cat. No.	Capacity Max.	Capacity Min.	Spacing (Inches)	Length** (Inches)	Code Word	List Price
35F20	35	6	.045"	1 1/2"	COABA	\$3.50
50F20	48	7	.045"	1 3/4"	COIRI	3.70
70F20	67	8	.045"	1 3/4"	CORIF	4.00
100F20	106	9	.045"	2 1/4"	COIQL	4.50
150F20	156	12	.045"	2 7/8"	COIPA	5.25
250F20	255	18	.045"	4 1/2"	COHUP	6.65
35F30	34	7	.075"	1 7/8"	COACE	3.80
50F30	51	8	.075"	2 1/8"	COKEN	4.15
70F30	68	10	.075"	2 3/8"	COROG	4.60
100F30	102	13	.075"	3 1/8"	COKAQ	5.30
150F30	150	18	.075"	4 7/8"	CORTU	6.40

TYPE F DUAL SECTION

Cat. No.	Capacity Max.	Capacity Min.	Spacing (Inches)	Length** (Inches)	Code Word	List Price
50FD20	47	6	.045"	3 1/2"	COQAY	5.75
70FD20	67	7	.045"	3 3/4"	COADI	6.25
100FD20	105	9	.045"	4 3/4"	COPIX	7.30
150FD20	153	10	.045"	6"	COSIK	8.50
200FD20	207	13	.045"	7 1/2"	COPIT	10.00
50FD30	51	7	.075"	4 3/8"	COQOC	6.70
70FD30	67	10	.075"	5 1/8"	COAFO	7.45
100FD30	101	11	.075"	7 1/8"	COQIB	8.95

TYPE E SINGLE SECTION

Cat. No.	Capacity Max.	Capacity Min.	Spacing (Inches)	Length** (Inches)	Code Word	List Price
250E20	244	12	.045"	2 3/8"	COELI	5.35
350E20	356	14	.045"	3 1/8"	COEKE	6.35
500E20	495	18	.045"	4 3/8"	COEHA	7.50
35E30	38	6	.075"	1 3/8"	COAGU	3.80
50E30	51	7	.075"	1 1/2"	COFIY	4.00
70E30	73	10	.075"	2 1/8"	CORUH	4.30
100E30	100	10	.075"	2 3/8"	COFUX	4.65
150E30	154	13	.075"	3 1/8"	COFAX	5.40
250E30	250	19	.075"	4 1/8"	COENA	6.75
350E30	350	22	.075"	6 1/8"	COEMO	8.10
35E45	38	8	.125"	2 1/8"	CODIR	4.10
50E45	47	10	.125"	2 3/8"	COGAC	4.35
70E45	75	13	.125"	3 1/8"	COSAI	5.00
100E45	101	16	.125"	4 1/8"	COFUB	5.60
150E45	145	20	.125"	6 1/8"	COFOZ	6.70
250E45	245	30	.125"	9 1/8"	COGUT	9.10

TYPE E DUAL SECTION

Cat. No.	Capacity Max.	Capacity Min.	Spacing (Inches)	Length** (Inches)	Code Word	List Price
50ED30	52	7	.075"	4 1/8"	CONIN	5.95
70ED30	71	8	.075"	4 1/8"	CODOS	6.50
100ED30	99	10	.075"	5 1/8"	CONEM	7.25
150ED30	152	11	.075"	7 1/8"	COSOL	8.70
200ED30	195	15	.075"	8 7/8"	COMIE	9.95
50ED45	51	9	.125"	6 1/8"	CONUQ	6.80
70ED45	73	11	.125"	7 1/8"	COHAK	7.90
100ED45	100	15	.125"	9 1/8"	CONOP	9.15

TYPE H SINGLE SECTION

Cat. No.	Capacity Max.	Capacity Min.	Spacing (Inches)	Length** (Inches)	Code Word	List Price
25H15	24	4	.030"	1 1/8"	COTEO	\$2.00
35H15	35	5	.030"	1 1/8"	COTIP	2.05
50H15	52	6	.030"	1 3/8"	COTOQ	2.15
70H15	71	7	.030"	1 3/8"	COXIF	2.25
100H15	101	8	.030"	1 1/2"	COTUR	2.35
150H15	150	9	.030"	2 1/8"	COVAS	3.15
250H15	250	11	.030"	3 1/8"	COVET	3.60
25H30	26	8	.080"	2 1/8"	COVIU	2.60
35H30	35	9	.080"	2 1/8"	COVOV	2.70
50H30	50	10	.080"	3 1/8"	COVUW	3.00
70H30	70	12	.080"	4 1/8"	COWAX	3.40

TYPE H DUAL SECTION

Cat. No.	Capacity Max.	Capacity Min.	Spacing (Inches)	Length** (Inches)	Code Word	List Price
35HD15	35	5	.030"	1 1/8"	COWEY	4.20
50HD15	52	6	.030"	2 1/8"	COWIZ	4.40
70HD15	71	7	.030"	2 1/8"	COWOB	4.60
100HD15	101	8	.030"	3 3/8"	COVUC	4.90
35HD30	35	9	.080"	4 1/8"	COXAD	4.80
50HD30	50	12	.080"	6"	COXEE	5.25

* Capacity per section

** Length over end plates



STAND-OFF INSULATORS

All original Johnson designs, with over a decade of world wide preference as a result of their perfection of ceramic design, complete range of sizes, top quality nickel plated BRASS hardware with milled (not rough punched) nuts, and superior white glazed porcelain. Note especially the unbreakable metal base types, furnished with either cadmium plated steel or lacquered brass bases.



Cat. No.	Body Height	Hardware	Code Word	List Price
ALL PORCELAIN TYPES				
20	1 1/8"	10-32	STAFF	\$0.13
20J	1 1/8"	74 jack	STAMP	.16
22	1 1/8"	8-32	STACK	.09
22J	1"	74 jack	STEEL	.12
24	5/8"	6-32	START	.07
60	4 1/2"	1/4-20	STAND	.65
62	2 3/4"	1/4-20	STAVE	.35
METAL BASE TYPES				
65	1 3/8"	10-32	STAIN	.20
65B*	1 3/8"	10-32	AZBEF	.25
65J	1 3/8"	74 jack	STINT	.25
66	2 3/4"	1/4-20	STAKE	.35
66B*	2 3/4"	1/4-20	AZBFG	.45
66J	2 3/4"	76 jack	STIR	.50
67	4 1/2"	1/4-20	STALK	.55
67B*	4 1/2"	1/4-20	AZBGH	.65
67J	4 1/2"	76 jack	STIPE	.70
68	2"	10-32	AZBCB	.25
68B*	2"	10-32	AZBHI	.35
68J	2"	74 jack	AZBJI	.30

* "B" suffix indicates Brass Base.

BRASS BASES

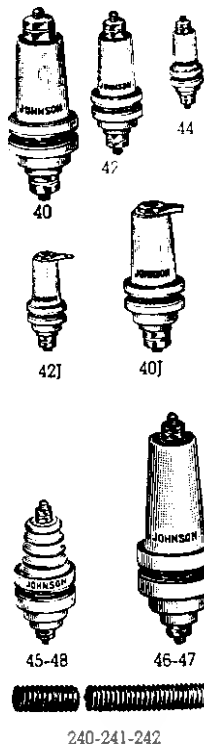
For outside use, particularly under corrosive conditions, lacquered brass bases are recommended if necessary for replacement on Nos. 65, 66, 67 and 68 insulators.



Cat. No.	For Use With	Code Word	List Price
865	65	AZBKL	\$0.07
866	65-68	AZBLM	.10
867	67	AZBMN	.12

THRU-PANEL INSULATORS

Johnson Thru-Panel Insulators possess the same quality features as the Stand-Off series. They are designed to have superior mechanical strength, longer leakage paths for higher voltages, and flat mounting surfaces with cushion washers.



Cat. No.	Body Height	Panel Hole	Hardware	Code Word	List Price
40	1 1/4"	1/2"	1/2"	10-32	STUB \$0.25
40J	1 1/4"	1/2"	1/2"	74 jack	STUCK .30
42	1 1/2"	3/8"	1/2"	10-32	STUFF .20
42J	7/8"	3/8"	1/2"	74 jack	STUNG .25
44	5/8"	3/8"	1/2"	6-32	STUMP .16
45	1 3/8"	1/2"	1/2"	10-32	STOCK .35
45J	1 3/8"	1/2"	1/2"	74 jack	STICK .40
4576J	1 3/8"	1/2"	1/2"	76A jack	STOW .55
46	2 3/8"	1"	3/4"	1/4-20	STOKE .65
46J	2 3/8"	1"	3/4"	76 jack	STIFF .80
47	4 1/2"	1 1/2"	1 1/2"	1/4-20	STONY .95
47J	4 1/2"	1 1/2"	1 1/2"	76 jack	STILL 1.10
48	2"	7/8"	3/4"	10-32	AZBDE .45
48J	2"	7/8"	3/4"	74 jack	AZBJK .50

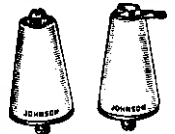
THREADED BRASS ROD

Used with stand-off and thru-panel insulators for making lead-in bushings, and for other purposes. 1/4" diameter, threaded 1/4-20. Nickel plated. Complete with 4 nuts and washers.

Cat. No.	Length	Code Word	List Price
240	8"	SALT	\$0.30
241	10"	SALVO	.40
242	15"	SEAR	.50

CONE INSULATORS

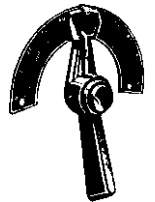
A new greatly improved series of porcelain cones, eliminating all trouble with weak, poorly fitting tapped porcelain threads. Made from a superior grade of white glazed porcelain in live machine screw and four jack types. Ultra-steatite cones are particularly suited for use as ultra-high frequencies, having a much lower loss factor than porcelain. Complete with machine screws and cushion washers.



Cat. No.	Height	Diameter Top	Diameter Bottom	Thread	Code Word	List Price
PORCELAIN						
600	5/8"	1 1/8"	5/8"	6-32	STEHA	\$0.11
601	1"	1 1/2"	3/4"	8-32	STEJE	.14
601J	1"	1 1/2"	3/4"	74 jack	STINA	.19
602	1 1/2"	1 1/2"	1"	8-32	STEKI	.18
602J	1 1/2"	1 1/2"	1"	74 jack	STIQI	.23
603	2"	5/8"	1 1/8"	10-32	STELO	.25
603J	2"	5/8"	1 1/8"	74 jack	STISO	.30
604	3"	3/4"	1 1/2"	10-32	STEMU	.35
604J	3"	3/4"	1 1/2"	76 jack	STITU	.50
ULTRA-STEATITE						
500	5/8"	1 1/8"	5/8"	6-32	STABA	.20
501	1"	1 1/2"	3/4"	8-32	STACE	.30
502	1 1/2"	1 1/2"	1"	8-32	STADI	.40
503	2"	5/8"	1 1/8"	10-32	STAFU	.50
504	3"	3/4"	1 1/2"	10-32	STAGU	.80

HANDLE INDICATORS

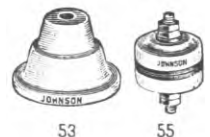
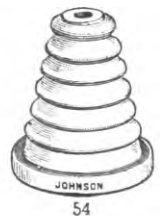
Highly attractive solid molded Bakelite controls which enhance the appearance of any equipment. "Window" design makes possible three separate scales with polished figures on black background. No. 204 fits 1/4" shafts and has 4" scale. No. 206 is similar, with 6" scale, fits 1/4" shaft and has removable bushing for 3/8" shaft.



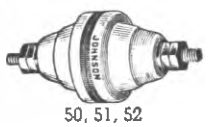
Cat. No.	Code Word	List Price
204	Handle Indicator PAGAN	\$1.00
206	Handle Indicator PAINT	1.25

LEAD-IN BUSHINGS

Johnson Lead-in Bushings are designed to have great mechanical strength and long leakage path in proportion to size. Nos. 50, 51, 52 and 55 are supplied complete with nickel-plated brass rod and milled nuts. Brass rod and mounting flanges available for Nos. 53 and 54 (see below). No. 55 of ultra-steatite is particularly useful for making r.f. connection through metal. Others of porcelain are well suited for antenna lead-in, power supply leads, etc.



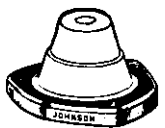
Cat. No.	Height	Dia.	Length	Code Word	List Price
50	1/2"	3/4"	2"	STOYO	\$0.20
51	1 1/8"	1 1/4"	2 7/8"	STOZU	.35
52	1 1/8"	1 3/4"	4 1/4"	STUDA	.50
53	1 3/4"	2 1/2"		STUFE	.30
54	4"	3 1/2"		STUGI	.70
55	1/4"	3/4"	1 1/4"	STUHO	.25



MOUNTING FLANGES

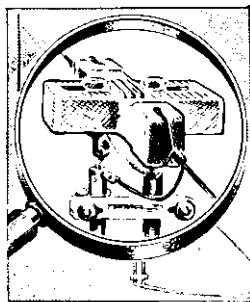
Mounting Flanges of cast aluminum for Lead-in Bushings 53 and 54.

Cat. No.	For Bushing No.	Code Word	List Price
90	53	STOVA	\$0.25
91	54	STOXI	.50





THE JOHNSON "Q" AND JOHNSON "Q" BEAM



The phenomenal results obtained by the thousands of users of the Johnson Q antenna system are due to the extremely high efficiency of this famous antenna. The tremendous increase in the percentage of radio frequency energy radiated over that of an ordinary antenna results in a great increase in effective power. Applications include half-wave doublet, either horizontal or vertical, harmonic or "long wire" radiator, radiator-reflector, radiator-director, "V" Beam, Johnson Q Beam and others. Write for Antenna Bulletin 105 describing and giving construction data on these many types. In all of these applications the following advantages are realized.

Advantages of the Q System:

1. Greater radiation from the same transmitter power than can be obtained with ordinary non-matched feeder systems.
2. Matched impedances throughout—no standing waves on transmission line.
3. Permits use of open wire line resulting in exceptionally low transmission line loss—less than 1/10 that of the best "twisted pair" lines.
4. No exact or critical overall line lengths. Line may be several hundred feet long if desired.
5. Permanent low loss construction. Glazed porcelain insulation—no weathering.
6. Easily installed and adjusted—complete data supplied.

A special "Q" for 5 meters uses aluminum tubing for the radiating portion as well as for the matching section. It may be used in the conventional manner or mounted directly on the transmitter case being self-supporting when used in this manner. The 5QM is a special model using mycalex instead of porcelain. Kits are supplied complete, less end insulators and transmission line material. Regular kits contain enough copperweld wire for half-wave installation. For other applications order the amount of No. 350 copperweld wire needed in excess of 1/2 wave. Wire will be supplied in one piece. Q and QS units are identical except that the latter are supplied with the quarter wave aluminum sections in straight lengths and are consequently easier installed.

The Q Beam is a special application of the Q system. It consists of two half-wave Q antennas spaced 1/2 wave and Q sections connected in parallel at the bottom. Flat-top connections at the suspension insulators are so connected as to feed the radiators 180° out of phase. Transmission line used must be 600 ohms.

Advantages of the Q Beam:

1. Two band operation with matched impedances on both bands. (Bands must be adjacent and harmonically related.)
 2. 4 db gain on fundamental—6 db on second harmonic.
 3. Wide effective radiation pattern—60° on fundamental—45° on second harmonic.
 4. Requires small installation space.
 5. Requires no adjustment when changing bands.
- In ordering, order two QS antennas for the lower frequency or the two bands desired.

Any of the Q applications may be used in television transmission and reception. Transmission lines should be made up using the No. 31 transposition insulators shown below. A 6 1/2" Q using same construction as the 5Q is supplied for the 40-56mc frequencies and the 5 meter unit can be cut for those above 60 mc.

COMPLETE "Q" SYSTEMS

Cat. No.	Band (Meters)	Code Word	List Price
5Q	5	QUAD	\$ 7.00
5QM	5	QUASH	10.00
6 1/2" Q	TELEVISION	QUOAZ	9.75
10Q	10	QUAY	7.85
10QS	10	QUNAT	8.65
20Q	20	QUEEN	12.25
20QS	20	QUNOR	14.50
40Q	40	QUERY	22.60
40QS	40	QUNUS	26.00
80Q	80	QUID	42.00

"S" indicates straight tubing.

ALUMINUM "Q" TUBING

Cat. No.	Lengths	Band	Code Word	List Price
ST5	2—4' 3"	5	QUPAT	\$ 2.45
CT10	2—8' 6"	10	QUICK	3.85
ST10	2—8' 6"	10	QUPEN	4.20
CT20	2—17'	20	QUIRE	7.15
ST20	4—8' 6"	20	QUIPW	9.20
CT40	2—34'	40	QUIRT	15.00
ST40	8—8' 6"	40	QUPOX	18.40
CT80	2—68'	80	QUIPS	30.00

"ST" indicates straight tubing; "CT", coiled tubing.

ENAMELLED COPPERWELD ANTENNA WIRE



Johnson Enamelled Copperweld Antenna Wire is the ideal material for transmitting doublets, directional antenna systems, or any applications where the wire must not stretch nor sag. Combines the desired characteristics of very low R. F. resistance, freedom from corrosion, and almost three times the strength of ordinary enamelled copper wire. Prices are per 100 ft.

Cat. No.	B&S Gauge	Feet per Lb.	Breaking Strength	Code Word	List Price
346	8	22	1700 lbs.	QUOD	\$4.25
348	10	34 1/2	1130 lbs.	QUAIL	2.75
350	12	54	720 lbs.	QUAKE	1.90
352	14	85	400 lbs.	QUOTA	1.25

STRAIN INSULATORS



30-32



38

The No. 32 Airplane Strain Insulator is useful for light guys and receiving antennas. No. 30 is a new insulator similar to No. 32 but 2" long for heavier service. The No. 38 "Cruciform" Strain Insulator is especially designed for R. F. uses, having low capacity, long leakage path, light weight. All are of white glazed low absorption porcelain.

Cat. No.	Length	Code Word	List Price
30	2"	ANOAB	\$.10
32	1 1/2"	ANEW	.07
38	1 1/2"	ANIL	.15

FEEDER SPREADERS



Three lengths, for every amateur transmitter and receiver requirement. No. 132 also has notches for 1 1/2" line spacing. Cross-section 3/8" x 1/2". High grade low absorption glazed porcelain.

Cat. No.	Length	Code Word	List Price
132	2"	FEINT	\$.15
134	4"	FELON	.20
136	6"	FEMUR	.25

TRANSPPOSITION INSULATORS



A patented insulator of high grade, non-absorbent white glazed porcelain. Easy to install, does not make a twist in the line, promotes highest efficiency for receiving or transmitting. Provides 2" line spacing.

No. 31 Transposition Insulator, Code FERRY. List Price \$.15

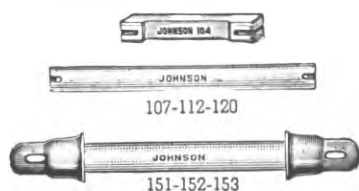
"Q" SUSPENSION ASSEMBLY

Includes No. 106 Antenna-Feeder Insulator and all necessary hardware for connecting "Q" tubing to insulator and transmission line. Insulator may be used with "Zepp" feeders permitting them to be brought off at any angle with equal tension on both. No. 39 Suspension Assembly, Code QUPUY. List Price \$1.90. No. 106 Antenna-Feeder Insulator only, Code ANNAM. List Price \$.60



106

ANTENNA INSULATORS



These insulators are of genuine WET PROCESS porcelain, with smooth white glazing. The all-porcelain types are 1" in diameter. Their long leakage path, low capacity, and freedom from moisture absorption result in exceptional efficiency. The Commercial Type is 1 1/2" in diameter, for uses where much greater strength is necessary. End fittings are of non-corrosive aluminum alloy. No. 104 is a dry process 4" antenna insulator, 5/8" square for service where the strength of the 1" types is not required.

Cat. No.	Length	Code Word	List Price
104	4"	ANOEC	\$.20
107	7"	ANNUL	.70
112	12"	ANNEX	.90
120	20"	ANTE	1.50

Cat. No.	Net Length	Code Word	List Price
151	8"	ANISE	\$ 9.00
152	12"	ANNOY	10.75
153	20"	ANON	15.00

"Q" SPACING BARS

Made of dense, highly vitrified white glazed porcelain, with aluminum tubing clamps. No. 33 Spacing Bar, Code QUIET.

List Price \$.30



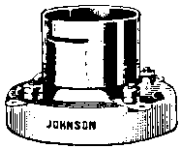
TUBE SOCKETS

"The World's Most Famous Tube Sockets," a title earned over years of top quality in material, workmanship and design, cover nearly every transmitting tube requirement. Johnson sockets are specified by exacting users wherever conditions are most severe, as in Government services.

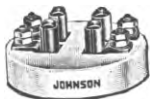
No. 209 is similar to No. 210 but provides greater spacing between contacts and shell, for higher voltages. No. 211, the standard "50 watt" socket, has double filament contacts for carrying heavy currents. No. 216 is for "jumbo 5 prong" tubes such as 803 and RK28. No. 215 is for "250 watt" tubes such as 204A, 849, etc., and features a plate terminal "safety cup." 210F and 211F are for front of panel mounting and are enclosed in lustrous black finished aluminum housings.

EIMAC 152TL and 304TL tubes take the new 213 socket, and EIMAC 1500TH etc., take the new 214 (with air jet for cooling filament seal).

All contacts are heavy, side wiping type, phosphor bronze, with choice of beryllium copper in most cases; shells, where used, are heavy brass, nickel plated; bases of excellent white porcelain, with steatite (Gov't grade G) optional.



209-210-211-216



213-214

Cat. No.*	Base	Code Word	List Price
209	"UX"	SOPED	\$0.95
209B	"UX"	SOPIG	1.10
209S	"UX"	SOPOH	1.85
209SB	"UX"	SOPUJ	2.00
210	"UX"	SOLUS	.85
210B	"UX"	SOPAC	1.00
210F	"UX"	SOOT	2.50
211	"50 watt"	SOLE	1.25
211B	"50 watt"	SOLIV	1.60
211S	"50 watt"	SONOW	2.70
211SB	"50 watt"	SONUX	3.00
211F	"50 watt"	SORRY	3.50
213	"Eimac"	SOSAQ	1.50

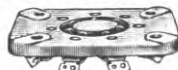
Cat. No.*	Base	Code Word	List Price
214	"Eimac"	SOSER	\$2.50
215	"250 watt"	SOLIF	3.50
216	"5 prong"	SOAR	2.50
216B	"5 prong"	SORAK	3.00
216S	"5 prong"	SOREL	4.25
216SB	"5 prong"	SORIM	4.75

*Explanation of catalog number: No letter suffix indicates standard construction; i.e., porcelain base, phosphor bronze contacts. Letter B indicates Beryllium Copper contacts; letter S indicates Steatite base.

WAFER SOCKETS



217-224-225-226-227-228



237-247



235

Johnson ceramic wafer sockets are insulated with steatite (Gov't grade G, wax impregnated) making them excellent for use at high and ultra-high frequencies. Contacts are cadmium plated, reinforced with cadmium plated steel springs, recessed in the form to prevent movement. All metal parts are counter-sunk and mounting holes bossed to permit mounting on metal panel without shorting.

No. 235 acorn socket has silver plated beryllium copper contacts mounted on bosses, providing long leakage paths. No. 237 is a socket for the HK 257 and RCA 813 tubes and No. 247 for the RCA 829 and 832 tubes is similar, with an aluminum tube shield.

Cat. No.	Base	Code Word	List Price	Cat. No.	Base	Code Word	List Price
224	4 prong	SOMEQ	\$.55	228	Octal	SONAH	\$.70
225	5 prong	SOMID	.60	235	Acorn	SONEU	1.25
226	6 prong	SOMOF	.60	237	7 prong	SORON	1.25
227	7 pr. large	SOMUG	.65	247	7 prong	SORUP	1.75
217	7 pr. Small	SOMAB	.65				

SHAFT COUPLINGS



No. 252 is a solid insulated coupling of Ultra-steatite for use where high quality insulation is desirable. Takes 1/4" shaft at either end. So designed to have extremely long leakage path in proportion to length.



No. 258 is a cadmium plated brass compression shaft coupling. Will not burr shaft. Much stronger than set screw type.

Cat. No.	Shaft Diameter	Code	List Price
250	1/4"	CULAB	\$ 1.80
251	3/8"	CULEC	1.40
251A	1/4"	CUNUM	1.40
251B	1/4" & 3/8"	CUPAN	1.40
252	1/4"	CULID	.75
258	1/4"	CUNOL	.15

FLEXIBLE SHAFTS



Cat. No.	Length	Code	List Price
253	3"	CULOF	\$0.35
254	4"	CULUG	.50

Phosphor bronze, non rusting, with 1/4" hubs. Permit out-of-line or up to 90° angular control.

PANEL BEARINGS

Cadmium plated brass, for 1/4" shaft and up to 3/8" panels. Also with 3/8" and 6" cadmium plated brass shafts.



Cat. No.	Code	List Price
255 Panel Bearing	CUNAH	\$0.15
256 Bearing and 3" shaft	CUNEI	.30
257 Bearing and 6" shaft	CUNIK	.40

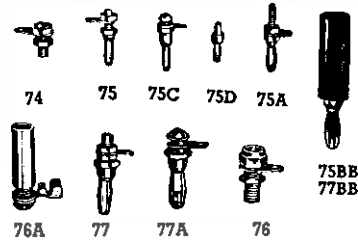
INDUCTOR CLIPS



The only clip taking wire from No. 20 to No. 10, without danger of tilting and shorting adjacent turns.

No. 860—Clip, Code: CLIAB.....List \$0.10

PLUGS AND JACKS "Banana Spring" Type



Nickel-silver springs, and high-grade nicked brass screw machine parts with accurate threads and milled nuts. Studs extend full length of springs.

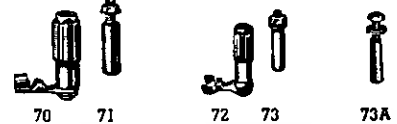
75C is a tapped plug with 3/8" 6-32 machine screw in head. 75D is designed for riveting or soldering. Spring is of beryllium copper.

75BB has 1" black insulated handle; 75BR same but red. 77BB has 1 1/2" black insulated handle; 77BR same but red.

Cat. No.	Body	Thread	Code Word	List Price
74	Jack 5/8"	15"x1/4-28	SMOKE	\$0.06
75	Plug 3/4"	3/8"x6-32	SMALL	.07
75A	Plug 3/4"	3/4"x6-32	SMOLT	.07
75BB	Plug 3/4"	1" handle	SMUAR	.15
75BR	Plug 3/4"	1" handle	SMUES	.15
75C	Plug 1"	6-32 screw	SMOPE	.08
75D	Plug 3/8"	3/8"x3-48	SMOOI	.08
76	Jack 1 1/4"	1 1/2"x3/8-24	SMEAR	.25
76A	Jack 1 1/4"	1/4-20 screw	SMUG	.25
77	Plug 1 1/8"	5/8x1/4-28	SMELL	.20
77A	Plug 1 1/8"	10-32 screw	SMILE	.25
77BB	Plug 1 1/8"	1 1/2" handle	SMUIT	.35
77BR	Plug 1 1/8"	1 1/2" handle	SMUOV	.35

*Overall length.
**Hollow rivet shank .135" dia.

"Spring-Sleeve" Type



These jacks have maximum current carrying capacity, minimum resistance, great mechanical strength, and snug fit. Tension is maintained by phosphor bronze "spring sleeves."

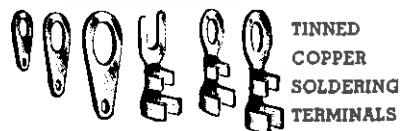
Cat. No.	Body	Lengths	Thread	Code Word	List Price
70	Jack 1 1/2"	1 1/2"	1/4-20 screw	SMITH	\$0.35
71	Plug 1 1/2"	1 1/2"	1/2"x1/4-28	SMART	.14
72	Jack 1 1/2"	1 1/2"	10-32 screw	SMASH	.25
73	Plug 1 1/2"	1 1/2"	1/4"x10-32	SMACK	.07
73A	Plug 1 1/2"	1 1/2"	10-32 screw	SMASH	.07

TUBE CAPS



Tube caps of phosphor bronze, cadmium plated, for transmitting use. Provide positive grip and low resistance contact.

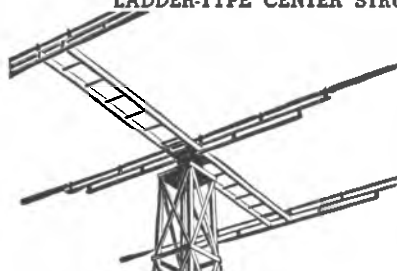
Cat. No.	Code	List Price
852—Medium, for 802, etc.,	SMUUY	\$0.05
854—Large, for 866, etc.,	SMEIS	.10



Cat. No.	Code	List Price per 100
880—1/4" long, 6/32" hole	SMOOR	\$0.40
881—1/4" long, 1/4" hole	SMOUS	.53
882—1/4" long, 3/8" hole	SMUAT	1.25
883—1/4" long, No. 10 hole	SMUEV	1.85
884—1/4" long, No. 10 spade	SMUIW	2.05
885—1 1/4" long, 1/4" hole	SMOUX	3.25



LADDER-TYPE CENTER STRUCTURE



The ladder-type center supporting structure has been proven the most practical and economical type of support yet devised. Strong yet light and inexpensive it comes in five sizes to meet all rotary beam requirements. It can be used equally well with any type beam.

2101 3 1/2' 2 El 10M...\$ 4.90	2102 7' 2 El 20M...\$ 9.35
2102 7' 3 El 10M... 9.35	2106 14' 3 El 20M... 18.20
2103 10 1/4' 4 El 10M... 13.50	2107 21' 4 El 20M... 27.50

CENTER STRUCTURE HINGE BRACKET

Designed to be used in conjunction with the above ladder-type center structure for mounting the beam assembly on the rotating device. Permits hinging the array down for adjustment, and simplifies mounting. Complete with all necessary hardware.

2151 Bracket for 2101, 2102, 2103 center structure.....\$ 9.50
2152 Bracket for 2106, 2107 center structure..... 10.50

ELEMENT SUPPORTING CROSS ARMS

A special truss-type support designed for 1 inch or smaller tubing elements. Construction and length has been worked out to hold the elements rigidly in place under most severe conditions.

2181 5 1/2' 10M\$4.25	2182 11' 20M\$7.00
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ADJUSTABLE TUBING ELEMENTS

Composed of 1 inch and 7/8 inch rust-proof manganese aluminum alloy, these elements are much stronger than ordinary aluminum, and far superior to other types due to low surface resistance. They are supplied cut to length and a close fitting adjustable section is provided for tuning, locked securely in place by clamps. Elements complete for mounting except for insulators and supplied in matched sets for the rotary antennas indicated.

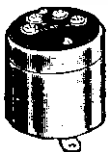
2201 2 El 10M.....\$15.85	2205 2 El 20M.....\$35.00
2202 3 El 10M..... 21.30	2206 3 El 20M..... 50.25
2203 4 El 10M..... 26.75	2207 4 El 20M..... 65.25

ELEMENT SUPPORTING INSULATORS

A special insulator having low RF losses and designed to carry any type tubing elements without breaking.

2171 Insulator complete with hardware, each.....35c

IMPEDANCE MATCHING RECEIVER COUPLER



Most modern communications receivers such as RME, Hallicrafters, Hammarlund, etc., have an input impedance of 300 to 600 ohms resulting in considerable signal attenuation when used with low impedance lines. This coupler was designed to match such receivers to lines having an impedance of 70 ohms or less. The usual result is a 20 db. increase in signal strength. Highly recommended for all antennas using concentric cable.

VERTICAL COAXIAL ANTENNAS

One of the newest developments in UHF antennas, the Coaxial is rapidly becoming very popular because of low cost, ease of installation, and outstanding results. Elements are of 7/8 inch manganese aluminum alloy tubing mounted on wooden base by means of high frequency insulators. Easily mounted in a few minutes on any type of support or mast. All types adjustable over entire frequency band and priced less cable. Amount and power of 64 ohm cable should be selected above, and factory installation will be made at no extra charge. Length is measured from center of radiator. Police types are adjustable over a range of 5 MC. In ordering specify frequency desired. Receiving type uses 64-200 cable. Television type of 3/8 inch manganese aluminum tubing supplied less cable, and uses 64-200 cable. All types complete with wooden base, insulators, hardware, and full instructions.

Amateur Type		Police Type	
2301 5 Meter...\$15.00		2310 Transmitting	\$32.50
2302 10 Meter... 19.75		2311 Receiving ...	25.00
2303 20 Meter... 36.25			
Television Type			
2320 Television			\$9.75



JOHNSON-BASSETT CONCENTRIC CABLE

A patented concentric cable which has been manufactured for several years by the Bassett Radio Mfg. Corp. having many advantages not found in other types. Flexible, waterproof, will not stretch and change the impedance, light, low loss, can be supplied in any length at no extra cost, and can be provided with molded waterproof end seals at small extra charge. Available in a variety of power ratings and impedances. Also available with lead sheath for use underground or in water. Widely used by marine and government services. The first number indicates the impedance in ohms and the second number the power in watts.



64-1000.....35c per ft.	34-1000.....18c per ft.
64-500.....20c per ft.	28-1000.....15c per ft.
64-200.....8c per ft.	13-1000.....11c per ft.
Factory molded end seal, each.....\$2.50	

FLEXIBLE LEAD COVERED MARINE CABLE

64-1000 Marine ..62c per ft.	64-200 Marine ...17c per ft.
64-500 Marine ...42c per ft.	34-1000 Marine ..35c per ft.

CONCENTRIC MATCHING TRANSFORMERS

JOHNSON-Bassett transformers are made in a variety of impedances and power ratings. The first number indicates the impedance, the second the power rating in watts, and the third the amateur band for which it is designed. Many applications will be found for matching various impedance feed lines to different types of antennas. The necessary matching transformer can be calculated by multiplying together the impedance of the feed line and the impedance of the antenna and extracting the square root of this product. Prices shown are for end seals at both ends. Transformers with only one end seal may be obtained on special order and \$2.50 (list) deducted from the price.



64-1000-10 .....\$7.95	50-1000-20 .....\$7.95
64-1000-20 9.25	34-1000-10 6.35
64-500-10 6.35	34-1000-20 7.40
64-500-20 7.45	28-1000-10 6.10
64-200-10 5.50	28-1000-20 7.00
64-200-20 5.90	13-1000-20 5.75
50-1000-10 6.60	13-1000-20 6.35

The transformers for 10 meters are approximately 6 feet long while those for 20 meters are about 12 feet long.

CONCENTRIC MATCHING FEEDER

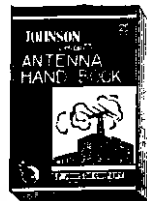
JOHNSON-Bassett Matching feeder can be supplied as a combination of Matching Transformer and a section of Concentric Feeder, joined with a special rubber seal at the factory, for a variety of applications. The first number indicates impedance of antenna, second power rating of cable, third amateur band for which designed. Prices are with one end seal. Additional end seal \$2.50.

Application	50 ft. length	Each	Addl. ft.
3-1000-10 6 Element Beam.....	\$21.40		35c
3-1000-20 6 Element Beam.....	20.10		35c
3-500-10 6 Element Beam.....	14.70		20c
3-500-20 6 Element Beam.....	14.25		20c
3-200-10 6 Element Beam.....	9.30		8c
3-200-20 6 Element Beam.....	9.45		8c
5-1000-10 4 Element Beam.....	13.80		18c
5-1000-20 4 Element Beam.....	13.40		18c
8-1000-10 3 Element Beam.....	12.45		15c
8-1000-20 3 Element Beam.....	12.20		15c

Note: 2 Element Beam uses 28 ohm cable.

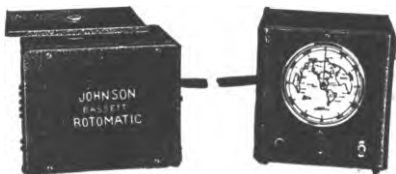
JOHNSON-BASSETT ANTENNA HANDBOOK

Written as a result of years of research and experimentation by both the Johnson and the Bassett organizations, it is a practical handbook of "how to do it". A combination of the famous Bassett Rotary Beam Handbook with the Johnson Q system, methods of impedance matching and many new ideas never before published. Truly an outstanding contribution to the antenna field, and the only authentic manual on rotary beam construction and operation.



2351 Handbook	25c net
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NEW IMPROVED JOHNSON-BASSETT ROTOMATIC DRIVE



The new JOHNSON-Bassett Rotomatic Drive is the result of more than four years of development and experimentation by the Bassett organization followed by further electrical and mechanical improvement by JOHNSON. Completely automatic in operation. Simply set the control pointer at one of twelve positions under the world map and beam rotates to this position and stops. Will operate either direction. Center shaft is hollow through which any type cable or matching transformer may be led providing simple and easy method of feeding beam. A small but powerful drive capable of giving many years of service for 2, 3, or 4 element 10 meter beams. (A new heavier unit is being developed for 20 meter beams and will be announced soon.)

2051 Rotomatic Drive and Indicator control complete with 50 ft. control cable.	\$132.50
More or less No. 2401 16 wire control cable for above, per foot.....	25c

NOTE: ALL PRICES ARE LIST SUBJECT TO USUAL DISCOUNTS

COILS



TRIMMERS



I. F. TRANSFORMERS

Set builders and servicemen find these new Guthman IF transformers ideal for best results. Doubled-tuned with single pi primary and mica trimmers. Low-loss ceramic base trimmers. Wide frequency range easily tuned to required frequency. Excellent construction and remarkably high gain. Size is 1-3/8"x1-3/8"x3 1/2".

Freq.	Input No.	Interstage No.	Output No.
175 KC	4509	4510	4511
456 KC	4512	4513	4514

LIST \$1.10.....NET..... **66c**

HIGH GAIN SHIELDED ANT. & R.F. COILS



Bank wound with Litz wire, permitting unusual sensitivity and uniform gain over entire wave band. Round shielding can 2 1/2" high, 1-7/8" in diameter. Use with 370 mmf. condensers. Covers 1750 to 540 kc. High impedance primaries.

Type	No.	List	NET EACH
Antenna	4525	.70	42c
R.F.	4526	.70	

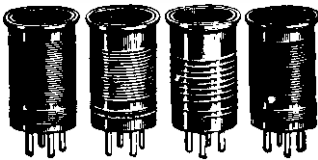
HIGH GAIN MIDGET UNSHIELDED ANT. & R.F. COILS



For compact circuits in midget receivers, portables, auto-converters, and for service on midgets, these specially developed midget coils are widely used. Have same excellent overall response as in larger size, but measure only 1/2" O.D. x 1-7/16". Covers 1750 to 540 kc.

Type	No.	List	NET EACH
Ant.	4529	.45	27c
R.F.	4530	.45	

SHORT-WAVE Plug-In COILS

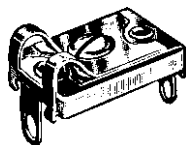


4 PRONGS ONLY

Space wound coils for use with 140 mmf. condensers. Forms are smooth bakelite, 1 1/4" diameter and 2 1/4" high. Rim top for easy handling.

16 to 217 Meters 4 Coil Kit No.	4538
List	1.45 NET..... 87c
190-550 Meters 2 Coil Kit No.	4539
List	1.10 NET..... 66c

TRIMMER CONDENSERS



C-44	No. 4545
List	.14 NET..... 8c

Clear India Ruby mica and best ceramic used assures very maximum efficiency. 5/8" x 13/16" size fits any space for balancing, trimming, neutralizing, etc. 3 to 35 mmf. range. This Guthman trimmer used by most set manufacturers today.

MIDGET I. F. TRANSFORMERS



Invaluable in servicing and building compact sets. Has same high performance as in full size Guthman IF, and will handle every need for overall gain. For midget servicing it is indispensable. Size is only 1 1/4" x 1 1/2".

Freq.	Input	Output	List
456 KC	4515	4516	\$1.00

NET EACH..... **60c**

HIGH GAIN UNSHIELDED. ANT. & R.F. COILS

Similar to coils 4525-6 at left, but unshielded. Supplied with mounting bracket and dowel with screw and bolt. May be mounted in any position. Litz wire, bank wound, high gain over full band. High impedance primary. Covers 1750 to 540 kc.



Type	No.	List	NET EACH
Antenna	4527	.50	30c
R.F.	4528	.50	

PENTAGRID OSCILLATORS

Compact, completely impregnated oscillator coils made particularly for Pentagrid tubes. For use with 365 mmf. TRF type variable condenser and a paider. Easily mounted. Duo-lateral wound to minimize distributed capacity. Also for cut section rang. Covers 1750 to 540 kc. with 456 kc. I.F.



Freq.	No.	List
456 KC	4531	.50
456 KC—for Cut Section	4532	.50

NET EACH **30c**

CHOKE COILS

High impedance, lattice wound air-core RF chokes. Full impregnation for trouble free, sure results. Easily mounted.



No.	M.H.	List	NET
4546	2.5	.30	.18
4547	5.5	.30	.18
4548	8	.40	.24
4549	10	.40	.24
4550	16	.40	.24
4551	30	.50	.30
4552	60	.65	.39
4553	80	.65	.39

IRON-CORE CHOKES

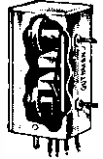
New Hi-Q iron core RF chokes. Used for greater efficiency over air core type. Have greater gain in either tuned or untuned plate circuit load.



No.	M.H.	List	NET
4554	2.5	.55	.33
4555	3.5	.55	.33
4556	5.5	.60	.36
4557	10	.70	.42
4558	30	.80	.48
4559	60	.90	.54
4560	80	1.10	.66
4561	125	1.45	.87

PERMEABILITY TUNED IRON CORE HIGH GAIN I. F. TRANSFORMERS

Gain and selectivity of this new Guthman iron-core IF is nearly double that of air-core design. Both core and winding loss cut to minimum. Size 1 1/4" x 1-7/16" square. Tuned from side of shield. These permeability tuned I.F.s are unusually stable and free from frequency drift.



Freq.	Input No.	Interstage No.	Output No.
460-470 KC	4517	4518	4519
1600-1800 KC	4521	4522	4523

List \$2.50 NET..... **\$1.50**

PERMEABILITY TUNED BEAT-FREQUENCY OSCILLATORS

Highly efficient permeability tuned beat oscillators designed especially for use with the iron core IFs shown above. Same frequency and range as above, but with single tuned inductor with cathode tap for B.O. use. Size 1 1/4" high, 1-7/16" square. For pitch control add brass shaft to iron core slug adjusting screw.



No.	List	NET EACH
4520	2.00	\$1.20
4524	2.00	

PRIMARY REPLACEMENT WINDING

High impedance replacement primary windings for use where economy is necessary both on Antenna and RF coils. The sizes below are outside diameters of the coils with which these windings may be used.



No.	Size	LIST EACH	NET EACH
4533	1 1/4"	.20	12c
4534	1"		
4535	3/4"		
4536	1/2"		
4537	1/2"		

ANTENNA LOOPS FOR MIDGET & PORTABLE

Replaces Antenna coil, widely used in new portables. Supplied inductance higher than needed, permitting removal of turns for adjustment. In designing midget super use special antenna No. 4564 with 4531 osc. No. 4515 input, 4516 output Midget IFs. Either loop 4562 or 4563 can be substituted for the Antenna Coil 4564 but inductance to be adjusted depending upon proximity of metal to loop.



No.	Size	List	NET
4562	4 1/4" x 8"	.75	.45
4563	7 1/2" x 9 1/2"	.80	.48

PADDING CONDENSERS

Anchored construction, using clear India Ruby mica and best ceramic made. Once set, no capacity change. Extra close adjustment thru 4/64 screw, uniform and stable, used by most set builders today.



No.	MMF	List	NET
4540	25-100	.20	.12
4541	75-225	.25	.15
4542	125-350	.30	.18
4543	175-500	.35	.21
4544	225-650	.40	.24



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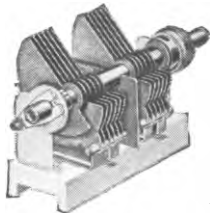
"MC" MIDGET CONDENSERS

Ideal variable for ultra-short wave and short wave tuning, laboratories, etc. Isolantite insulation. All contacts riveted or soldered. Vibration proof. New Improved Hammarlund split type rear bearing, and noiseless wiping contact. Cadmium plated soldered brass plates. Shaft— $\frac{1}{4}$ ".

Code	Capacity	List
MC-20-S	20 mmf.	\$1.40
MC-35-S	35 mmf.	1.50
MC-50-S	50 mmf.	1.60
MC-50-M	50 mmf.	1.60
MC-75-S	80 mmf.	2.00
MC-75-M	80 mmf.	2.00
MC-100-S	100 mmf.	2.25
MC-100-M	100 mmf.	2.25
MC-140-S	140 mmf.	2.50
MC-140-M	140 mmf.	2.50
MC-200-M	200 mmf.	2.75
MC-250-M	260 mmf.	3.00
MC-325-M	320 mmf.	3.50

"M"—Midline Plates

"S"—Straight Line Cap. Plates



"MCD" SPLIT-STATOR CONDENSERS

Like single midgets, these incorporate every requirement imperative to highest quality. Specifications identical to single types except that shield plate is located between stator sections. Also equipped with new Hammarlund noiseless wiping contact and split type rear bearing. Overall length behind panel— $3\frac{1}{4}$ ". Strong Isolantite base. Single hole panel mount.

Code	Capacity	List
MCD-50-M	50 mmf. per sect.	\$3.00
MCD-50-S	50 mmf. per sect.	3.00
MCD-100-M	100 mmf. per sect.	3.50
MCD-100-S	100 mmf. per sect.	3.50
MCD-140-M	140 mmf. per sect.	4.00
MCD-140-S	140 mmf. per sect.	4.00

"M"—Midline Plates

"S"—Straight Line Cap. Plates



"MCB" BAND SPREAD CONDENSERS

For perfect band spreading or for amateur band frequency meters. Tank section may be set and locked to any desired capacity. Tuning sections spreads narrow frequency range over entire dial regardless of range of bands or coils used. Tank capacity—100 mmf., Tuning cap. type "120-B"—20 mmf., type "150-B"—50 mmf. Isolantite insulation at front and rear. Plates rigidly held in place.

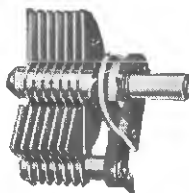
Code	List
MC-120-B	\$3.00
MC-150-B	3.25

"SWM" SHORT WAVE MANUAL

ENTIRELY NEW!

Contains up-to-the-minute constructional data on short and ultra-short wave receivers — power supplies — transmitters — preselectors — converters — tuning hints and SW station list. All sets were built in the Hammarlund laboratories and thoroughly tested. Illustrated with photographs and wiring diagrams. Ideal for the beginner and old-timer alike.

Code	List
SWM-39	\$0.10



"SM" STAR MIDGET CONDENSERS

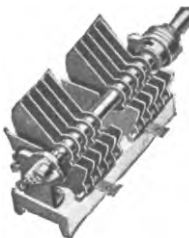
For receiving and transmitting, for short wave tuning, regeneration, antenna coupling, vernier, etc. Low loss, natural bakelite insulation. Non-corrosive aluminum plates. Phosphor bronze spring plate affords proper tension and smooth control and also provides perfect contact. Single hole mounting. $\frac{1}{4}$ " shaft. $5/16$ " mounting bushing. $1-9/16$ " wide x $1\frac{1}{4}$ " high. Depth behind panel from $11/16$ " to $1\frac{1}{8}$ " depending on capacity. Exceptionally light in weight

and strong and compact in construction. Tinned soldered lugs on the front end are supplied to simplify wiring. Plates of straight line capacity types.

Code	Capacity	List
SM-15	15 mmf.	\$0.85
SM-25	25 mmf.	.85
SM-50	50 mmf.	.90
SM-100	100 mmf.	1.00
SM-140	140 mmf.	1.25
*SM-35-X	35 mmf.	1.00
*SM-50-X	50 mmf.	1.25

* Double Spaced Transmitting Types

"MCDX" DOUBLE SPACED CONDENSERS



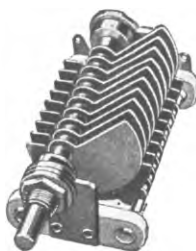
Identical to split stator condensers except that plates are widely spaced—actual air gap between rotor and stator plates—.0715". No shield between stators. Equipped with new Hammarlund noiseless wiping contact, and split type rear bearing. Condenser ideal for ultra-high frequency transmitters using up to 245's or 210's in push-pull.

Code	Capacity	List
MCD-35-MX	31 mmf. per sect.	\$3.50
MCD-35-SX	31 mmf. per sect.	3.50

"MX"—Midline Plates

"SX"—Straight Line Cap. Plates

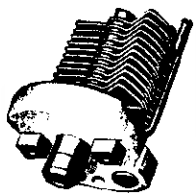
"MCX" DOUBLE SPACED CONDENSERS



Exceptional unit for ultra-s.w. receivers and transmitters particularly compact transmitters. Plate spacing—.0715". Great for tuning crystal controlled transmitter amplifier stages or for neutralizers up to 210's and 50 watters. In midline (MX) and straight line cap. types (SX).

Code	Capacity	List
MC-20-SX	20 mmf.	\$2.00
MC-20-MX	20 mmf.	2.00
MC-35-MX	32 mmf.	2.25
MC-35-SX	32 mmf.	2.25
MC-50-MX	50 mmf.	2.75
MC-50-SX	50 mmf.	2.75
MC-100-SX	100 mmf.	3.50

"APC" MICRO CONDENSERS



For S.W. and ultra-S.W. For I.F. tuning, trimming R.F. coils or gang condensers, general padding, etc. Constant capacity under any conditions of temperature or vibration. Size 100 mmf. $1-7/32$ " x $15/16$ " x $1-7/32$ ". Isolantite base. Cadmium plated soldered brass plates.

Code	Capacity	List
APC-25	25 mmf.	\$1.30
APC-50	50 mmf.	1.50
APC-75	75 mmf.	1.70
APC-100	100 mmf.	1.90
APC-140	140 mmf.	2.25



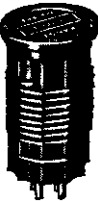
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"CF" ISOLANTITE COIL FORMS

Popular coil forms so many fans are using today. Black enameled wooden knob. Removable paper indicating disc protected by celluloid. Surface "non-skid". Plenty of holes—eliminates drilling. Slotted bottom for primary or tickler. Four, five, and six prong types. 1 1/2" diameter. 2 1/2" long exclusive of knobs and prongs.

Code	List
CF-4 (four prongs)	\$1.25
CF-5 (five prongs)	1.25
CF-6 (six prongs)	1.25



"XP-53" COIL FORMS AND KITS

Outstanding forms using new low loss insulation material—XP-53. Natural coloring eliminating losses. Groove-ribbed for air spaced windings. Flange grips, meter indexes. Moulded threaded shelf in form. 1 1/2" diameter and 2 7/8" long exclusive of prongs. Kits with wound coils for MC-140-M condenser also available.

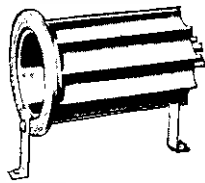
Code	List
SWF-4 (four prongs, coil form only)	\$.35
SWF-5 (five prongs, coil form only)	.35
SWF-6 (six prongs, coil form only)	.40

No. 40 coil (wound coil, 4 prongs, 10-20 meters)	1.00
No. 41 coil (wound coil, 4 prongs, 17-41 meters)	1.00
No. 42 coil (wound coil, 4 prongs, 33-75 meters)	1.00
No. 43 coil (wound coil, 4 prongs, 66-150 meters)	.75
No. 44 coil (wound coil, 4 prongs, 135-270 meters)	.75
BCC-4 (wound coil, 4 prongs, 250-560 meters)	1.25
No. 60 coil (wound coil, 6 prongs, 10-20 meters)	1.25
No. 61 coil (wound coil, 6 prongs, 17-41 meters)	1.25
No. 62 coil (wound coil, 6 prongs, 33-75 meters)	1.25
No. 63 coil (wound coil, 6 prongs, 66-150 meters)	1.00
No. 64 coil (wound coil, 6 prongs, 135-270 meters)	1.00
BCC-6 (wound coil, 6 prongs, 250-560 meters)	1.50
SWK-4 (kit—4, four-prong coils, 17-270 meters)	3.00
SWK-6 (kit—4, six-prong coils, 17-270 meters)	3.75

"TCF" COIL FORM

A transmitting coil form of XP-53 dielectric is also available. This may be permanently mounted on special brackets supplied, or in plug-in coil fashion. 2 1/4" diameter. 3 3/8" long exclusive of prongs.

Code	List
TCF-4 (4 prongs)	\$.70
TCF-5 (5 prongs)	.70



"CF-M" ULTRA S. W. FORMS

Unusual coil form for maximum efficiency at ultra-high frequencies or within the 28-56 megacycle band. Isolantite with correct form factor and resultant minimum high frequency resistance guaranteeing absolute stability. Plenty of holes to facilitate any induction desired and any type of wiring. Form is 1 1/8" in diameter and 2" long exclusive of prongs.

Code	List
CF-5-M	\$1.00

"S" ISOLANTITE SOCKETS

Standard socket at right. Lowest losses. Constant resistivity. Gripped prongs—cannot shift. Guide groove. Rust-proof side gripping contacts. Glazed top and sides. Sub-panel or base mounting. 2 1/4" x 1 5/8".



Code	List
S-4 (4 prongs)	\$.60
S-5 (5 prongs)	.60
S-6 (6 prongs)	.60
S-7 (large base, 7 prongs)	.60
S-7 B (small base, 7 prongs)	.60
S-8 (8 prongs)	.75

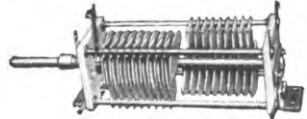


Code	List
UHS 900	\$1.10

New "locking" acorn tube socket for high frequency acorn tubes—954 or 955. 1 1/2" diameter. Five double grip silver plated Beryllium prongs. Top and sides glazed. Shielded plate to reduce feedback.

"HFBD" TRANSMITTING CONDENSERS

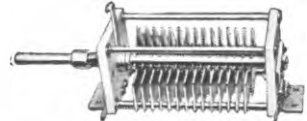
High efficiency, high frequency dual condensers with isolated rotor. Both mounting brackets and control shafts are insulated. DC can be applied to rotor as well as stator. Isolantite end plates, soldered brass construction, cadmium plated. End plate size 1 1/8". Types "E", "F" and "G" have rounded edge plates.



Code	Capacity	Length	Air Gap	List
HFBD-35-C	35 mmf.	2 1/8"	.050"	\$3.90
HFBD-50-C	50 mmf.	2 7/8"	.050"	4.15
HFBD-100-C	100 mmf.	4 3/8"	.050"	5.15
HFBD-200-C	200 mmf.	7 1/4"	.050"	6.75
HFBD-35-E	35 mmf.	3 1/4"	.070"	5.50
HFBD-65-E	65 mmf.	4 1/4"	.070"	7.00
HFBD-100-E	100 mmf.	6 1/4"	.070"	9.00
HFBD-35-F	35 mmf.	4 3/8"	.100"	6.20
HFBD-65-F	65 mmf.	7 3/8"	.100"	8.25
HFBD-35-G	35 mmf.	6 3/8"	.125"	7.25

"HFB" CONDENSERS

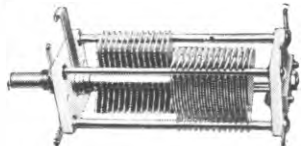
Same as above but single stator types. Stator is mounted at top to reduce capacity to chassis. The "HFB" has insulated mounting brackets and control shaft. Types "E" and "F" have rounded edge plates.



Code	Capacity	Length	Air Gap	List
HFB-50-C	50 mmf.	1 7/8"	.050"	\$3.20
HFB-100-C	100 mmf.	2 7/8"	.050"	3.70
HFB-150-C	150 mmf.	3 3/8"	.050"	4.15
HFB-50-E	50 mmf.	2 1/8"	.070"	4.40
HFB-100-E	100 mmf.	3 1/8"	.070"	5.80
HFB-50-F	50 mmf.	3 3/8"	.100"	4.90
HFB-100-F	100 mmf.	5 7/8"	.100"	6.90

"HFA" & "HFAD" CONDENSERS

"HFAD" has the same general construction as "HFBD" except that it is smaller in size and does not have the insulated control shaft. Ideal for ultra-high frequency operation. End panels 1 3/8" square. "HFA" same construction, except end panel 1 1/8" x 1 1/8". Both can be single hole panel mounted or can be mounted to the panel with stand-off bushings. Plain edge plates.



Code	Capacity	Type	Length	Air Gap	List
HFAD-75-A	75 mmf.	Dual	2 3/8"	.020"	\$3.15
HFAD-100-A	100 mmf.	Dual	2 7/8"	.020"	3.40
HFAD-140-A	140 mmf.	Dual	3 3/8"	.020"	3.90
HFAD-25-B	25 mmf.	Dual	1 3/8"	.030"	2.80
HFAD-35-B	35 mmf.	Dual	2 1/8"	.030"	2.95
HFAD-50-B	50 mmf.	Dual	2 7/8"	.030"	3.20
HFAD-100-B	100 mmf.	Dual	3 5/8"	.030"	4.00
HFAD-150-B	150 mmf.	Dual	5 1/8"	.030"	4.75
HFAD-15-E	15 mmf.	Dual	2 1/8"	.070"	3.90
HFAD-30-E	30 mmf.	Dual	4 1/8"	.070"	3.50
HFA-75-A	75 mmf.	Single	1 1/4"	.020"	1.80
HFA-100-A	100 mmf.	Single	1 7/8"	.020"	1.95
HFA-140-A	140 mmf.	Single	1 3/4"	.020"	2.30
HFA-10-B	10 mmf.	Single	1 1/8"	.030"	1.35
HFA-15-B	15 mmf.	Single	7/8"	.030"	1.40
HFA-25-B	25 mmf.	Single	1 1/8"	.030"	1.45
HFA-35-B	35 mmf.	Single	1 3/8"	.030"	1.55
HFA-50-B	50 mmf.	Single	1 7/8"	.030"	1.70
HFA-100-B	100 mmf.	Single	2 1/8"	.030"	2.80
HFA-150-B	150 mmf.	Single	2 3/8"	.030"	3.20
HFA-15-E	15 mmf.	Single	1 3/8"	.070"	1.65
HFA-30-E	30 mmf.	Single	2 1/2"	.070"	2.25



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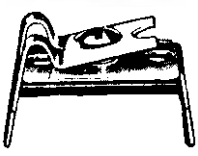


"EC" AND "MEX" EQUALIZERS

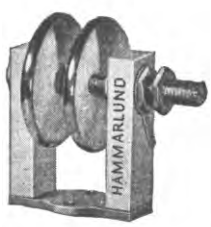


Standard type illustrated at left, popular model for neutralizing, balancing and trimming. Mica dielectric—phosphor bronze flexible plates, bakelite base 1/4" x 1 1/8".
 Code Capacity List
 EC-35 3-35 mmf. \$0.30
 EC-80 25-80 mmf. .40

The midget equalizer shown at right is an extremely small condenser designed expressly for trimming R.F. coils, but useful, of course, for many other purposes. Self-supporting in wiring. Isolantite base—5/8" x 3/4". Mica dielectric, phosphor bronze spring plates.
 Code Capacity List
 MEX 3-30 \$0.30



"N" NEUTRALIZING CONDENSERS



Improved neutralizing condensers with heavy polished aluminum plates. Rounded edges. Isolantite. Fine adjusting screw. Positive lock. Horizontal adjustment. Type "N-10", 2 5/8" high x 1-3/16" deep. "N-15" 4-15/16" high x 3/2" deep. "N-20", 5-11/16" high x 4" deep.
 Code List
 N-10—(2.1—10 mmf.) \$3.00
 N-15—(3.2—14 mmf.) 6.00
 N-20—(3.8—14 mmf.) 6.50

"ETU" EXCITER TUNING UNIT



Compact tuning unit for exciters. Ready-wound for 80, 40, 20 and 10 meters. Link output. Has two 25 mmf. double spaced condensers. "ETU-80" for 80 meters, "ETU-40" for 40 meters, etc. Supplied completely wired and ready for installation. Also available unwound. Size 2" x 4" x 1 1/2".
 Code List
 ETU-10-20-40-80—(Wound) \$5.50 ea.
 ETU—(Unwound) 4.00 ea.

"PTS" POWER TUBE SHIELD



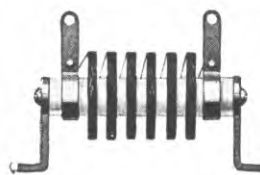
These shields are designed for use with screen grid beam or pentode tubes. The "PTS" is for use with tubes such as the 807, RK-39, and 802. Measures 2 1/4" diameter x 3" long. "PTSH" is used with RK-20, 814, 804, and others. Measures 2 1/4" in diameter x 2 1/8" long. Both are drilled for use with standard Hammarlund sockets.
 Code List
 PTS \$0.43
 PTS-H .40

"FC" FLEXIBLE COUPLINGS



This coupling permits tandem operation of any number of independent units without requiring exact shaft alignment. A great convenience and time saver. The sides of the coupling are insulated from each other, allowing instruments in gang to be operated as independent electrical units. Bakelized canvas with brass bushings for 1/4" shaft. Four rust proofed and hardened steel set screws provide against shaft slipping. Overall diameter 1 1/2".
 Code List
 FC \$0.60

"CH-500" TRANSMITTING CHOKES



For parallel feed in high powered transmitters—20- 40- 80- and 160-meter amateur bands. High equivalent impedance more than 500,000 ohms. Effective from 1,500 to 15,000 kc. with exception of frequencies between 5,300 and 6,400 and between 8,000 and 9,000. Six thin universal pies. Isolantite core. Insulated mounting brackets secured to Isolantite core with short machine screws. Brackets removable and choke mounted with a single machine screw. Ind.—2.5 mh. Dist. cap. less than 1.5 mmf. D.C. res.—8 ohms. Max. recommended D.C. (continuous) 500 ma. Overall size, less brackets—1 1/8" x 2 1/2".
 Code List
 CH-500 \$1.75

"CH-X" R.F. MIDGET CHOKES



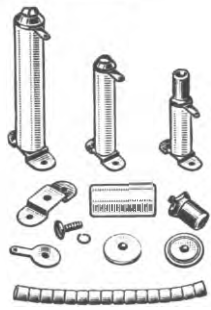
Invaluable item where space is at a premium. It is so small in size and light in weight that it can be supported by own leads. Five impregnated universal wound pies 1/4". Impregnated Isolantite core insuring ruggedness and stability. Ind.—2.1 mh. D.C. res.—35 ohms. Dist. cap.—1 mmf. Current carrying cap. 125 ma. Length across caps 1/2". Dia. 1/2".
 Code List
 CH-X \$0.50

"XS-2" CRYSTAL SOCKET



The "XS-2" is a special crystal socket designed to conserve space and provide a low loss mounting for standard crystal holders. Made with heavy-duty spring contacts and mounted on glazed Isolantite. Can also be mounted inside "SWF" coil forms for changing coil and crystal in one operation. Overall diameter 1 1/8".
 Code List
 XS-2 \$0.50

INSULATORS ISOLANTITE



Made of pure glazed Isolantite. These heavy-duty insulators will not chip or crack as easily as ordinary porcelains. Superior material prevents threads from stripping. Hardware is heavy brass cadmium plated and the terminal lug is thick copper cadmium plated. Available with or without hardware in either plain or jack tip types. Insulating beads and bushings also Isolantite.
 Code Size List

SOS-75	1/2" x 3/4" long	\$0.15
SOS-100	1/2" x 1" long	.20
SOS-150	1/2" x 1 1/2" long	.25
SOS-250	1/2" x 2 1/2" long	.30
SOL-100	3/4" x 1" long	.30
SOL-150	3/4" x 1 1/2" long	.40
SOL-200	3/4" x 2" long	.50
SOL-350	3/4" x 3 1/2" long	.70
SOSP*	Plain tip for 1/2" dia. Insl.	.10
SOSJ*	Jack tip for 1/2" dia. Insl.	.15
SOLP*	Plain tip for 3/4" dia. Insl.	.15
SOLJ*	Jack tip for 3/4" dia. Insl.	.20
FTB**	Feed through bushings	pr. .15
FCB***	Flexible connector beads	.25

*Complete hardware, including tip, screws, lockwashers, cork friction washer, mounting base, etc.
 **Packed in pairs in individual envelopes.
 ***Packed in envelopes of 25 beads (5 1/2 beads per inch).



HAMMARLUND



"TC" TRANSMITTING CONDENSER

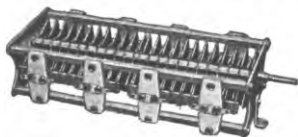


An entirely new moderately priced, heavy duty transmitting condenser, featuring heavy aluminum end plate, Isolantite insulation, non-inductive, self-cleaning silver plated beryllium contacts, full floating rotor assembly, polished heavy aluminum plates accurately spaced. All, except type "L," have round edge plates of .040" thickness. Type "L" has .025" plates with plain edges. Type "F" has .230" 7500 V. air gap. Type "G," .200", 6750 V. Type "H," .171", 6000 V. Type "J," .100" 4250 V. Type "K," .084", 3750 V. Type "L," .070", 2000 V. air gap.

Available in a wide variety of capacities and working voltages, these condensers are ideal for modern up-to-date transmitters with power outputs ranging from 200 watts to 1 kw.

Type	Capacity	Overall Length	List
TC-220-L	220 mmf.	4 7/8	\$ 4.50
TC-440-L	465 mmf.	5 7/8	7.70
TC-90-K	95 mmf.	2 1/8	4.50
TC-165-K	170 mmf.	4 1/8	6.50
TC-220-K	225 mmf.	4 7/8	8.00
TC-290-K	300 mmf.	5 7/8	9.50
TC-330-K	340 mmf.	6 1/2	10.00
TC-240-J	250 mmf.	6 1/2	10.20
TC-25-H	25 mmf.	2 1/8	3.50
TC-50-H	53 mmf.	4 1/8	6.00
TC-110-H	115 mmf.	6 1/2	9.00
TC-18-G	20 mmf.	2 1/8	5.20
TC-40-G	45 mmf.	4 1/8	7.00
TC-65-G	72 mmf.	5 7/8	8.80
TC-100-G	110 mmf.	7 1/2	11.20
TC-150-G	165 mmf.	10 5/8	14.80
TC-55-F	60 mmf.	5 7/8	8.00

"TCD" SPLIT STATOR TYPES



These split-stator transmitting condensers are identical to the singles shown above, except that the stator sections are individual. Ideal for push-pull power amplifiers ranging in power up to

1 kw. They are of convenient size and lend themselves to construction of compact apparatus. Overall dimensions in back of panel are given in the accompanying table. The capacity values listed are for each section. The last letter in the code represents plate spacing and voltage rating. These are identical to those given above. Type "M"—plain plates, .030" air gap.

Type	Capacity	Overall Length	List
TCD-500M	505 mmf.	4 7/8	\$ 6.50
TCD-80-L	88 mmf.	4 7/8	5.50
TCD-210-L	215 mmf.	5 7/8	8.25
TCD-90-K	95 mmf.	4 7/8	7.50
TCD-165-K	170 mmf.	6 1/2	11.00
TCD-325-K	335 mmf.	11 1/8	20.50
TCD-240-J	250 mmf.	11 1/8	19.00
TCD-50-H	53 mmf.	6 1/2	9.80
TCD-110-H	115 mmf.	11 1/8	16.00
TCD-40-G	48 mmf.	7 1/2	10.50
TCD-75-G	82 mmf.	11 1/8	14.50
TCD-55-F	60 mmf.	11 1/8	13.50

"HF" MICRO CONDENSERS

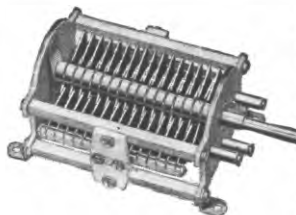
For tuning or trimming on high frequencies. Cadmium plated soldered brass plates. Isolantite. Base mounting, single hole panel mount, or panel mounting with bushings. 140 mmf. size 1 3/8" high x 1 1/2" behind panel.



Code	Capacity	List
HF-15	17.5 mmf.	\$1.25
HF-35	35 mmf.	1.50
HF-50	50 mmf.	1.60
HF-100	100 mmf.	1.90
HF-140	140 mmf.	2.25
*HF-15-X	15 mmf.	1.60
*HF-30-X	30 mmf.	1.85

* Double spaced

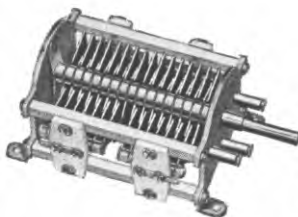
"MTC" TRANSMITTING CONDENSERS



Compact types, Isolantite insulation. Base or panel mounting. Polished aluminum plates. Stainless steel shaft. Size of 150 mmf. with .070" plate spacing only 4 3/8" behind panel. "A" model has .040" plate thickness, all others .025". "A" and "B" models — rounded plates. "C" type — plain plate edges. Self-cleaning wiping contact.

Code	Capacity	List
MTC-35-A	35 mmf.	\$6.00
MTC-20-B	20 mmf.	3.25
MTC-35-B	35 mmf.	3.50
MTC-50-B	50 mmf.	3.90
MTC-100-B	100 mmf.	5.00
MTC-150-B	150 mmf.	6.10
MTC-50-C	50 mmf.	2.80
MTC-100-C	100 mmf.	3.05
MTC-150-C	150 mmf.	3.20
MTC-250-C	260 mmf.	3.60
MTC-350-C	365 mmf.	4.00

"MTCD" SPLIT-STATOR TYPES



Same outstanding features as MTC singles except that stator sections are separate. Model 110-B with .070" plate spacing, only 5 3/8" behind panel. "B" models — rounded plates "C" models—plain plate edges.

Code	Capacity	List
MTCD-20-B	20 mmf. per sect.	\$5.25
MTCD-35-B	35 mmf. per sect.	5.75
MTCD-50-B	50 mmf. per sect.	6.50
MTCD-100-B	100 mmf. per sect.	8.75
MTCD-50-C	50 mmf. per sect.	4.50
MTCD-100-C	100 mmf. per sect.	5.00
MTCD-150-C	150 mmf. per sect.	5.25
MTCD-250-C	265 mmf. per sect.	6.00

"HFD" MICRO DUAL CONDENSERS



A compact dual—ideal as a high frequency tuning condenser, for tuning and neutralizing low-powered short wave and ultra-short wave transmitters, etc. Heavy Isolantite base. Equipped with new outstanding Hammarlund split rear bearing and individual noiseless wiping contact for each section. Rotor contacts variable

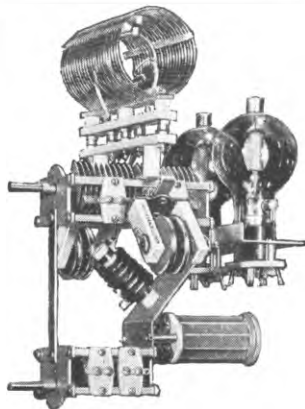
to several positions for shortest leads. Shield between sections for grounding. The 140 mmf. size is only 1 1/2" high x 3 3/4" long behind panel. 1/4" shaft. Cadmium plated soldered brass plates.

Code	Capacity	List
HFD-50	50 mmf. per sect.	\$2.75
HFD-100	100 mmf. per sect.	3.25
HFD-140	140 mmf. per sect.	3.75
*HFD-15-X	15 mmf. per sect.	3.00
*HFD-30-X	28.5 mmf. per sect.	3.25

*Double-Spaced



HAMMARLUND

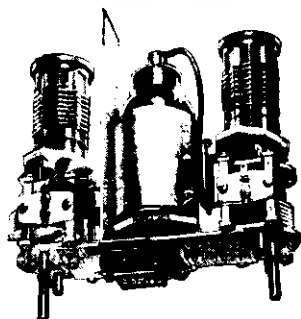


PA-300 FOUNDATION UNIT

This foundation kit is designed to make it easier for the amateur to build his own transmitter. The entire unit is self-supporting and can be bolted to the front panel of the transmitter. No chassis is required; thus the difficult task of drilling and machining is eliminated. The only tools necessary to put the PA-300 together are a screw-driver and soldering iron. The parts are placed so that connecting leads are short and direct, making the amplifier extremely efficient. It can be used with any of the popular

triodes, such as 808's, RK-37's, 35-T's, T-55's, HK-54's, and many others. The output varies between 100 and 300 watts depending upon the type of tubes employed. The PA-300 consists of all brackets, screws, nuts, lockwashers, etc., and is packed complete with instructions and drilling template. Other Hammarlund parts needed: 1—MTC-100-B; 1—MTC-100-C; 2—N-10; 1—CH-500; 2—S-4; 1—S-5; 4—SWF-5.

Code
PA-300—Foundation Unit List \$3.25

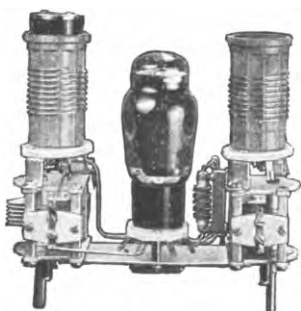


BD-40 BUFFER-DRIVER

The BD-40 is a driver unit intended for use with the PA-300 but can also be used as a low power output stage in a beginner's transmitter. Employs either an 807 or RK-39 beam tube. The output in either case is approximately 40 watts. A multistage transmitter can be constructed around these units providing an economical compact all-band transmitter. All brackets are drilled for standard Hammarlund parts. Holes for mounting the by-pass

condensers and other parts such as R.F. choke and plate blocking condenser are provided. The BD-40 includes all hardware such as brackets, shield plate and tube shield, screws, nuts, lockwashers, instructions and drilling template. Other Hammarlund parts needed: 2—MTC-100-C; 2—S-4; 1—S-5; 1—CH-X; 8—SWF-4. Overall dimensions 8 1/4" x 7 1/2" x 3 3/4".

Code
BD-40—Foundation Unit List \$3.60



OD-10 OSCILLATOR- DOUBLER

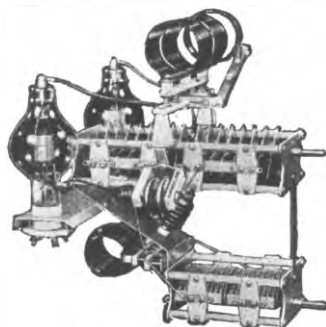
This unit is essentially the same as the BD-40 except that it uses a 6L6-G tube has no tube shield, and no vertical coil shield. Has the same overall dimensions and the same panel mounting specifications. This is a "tri-tet" crystal oscillator and doubler. This unit also employs a special crystal holder socket which fits into the top of the cathode coil form. Both coil and crystal are changed in one

operation. OD-10 consists of all brackets, screws, nuts, lockwashers, instructions and drilling template. Other Hammarlund parts needed: 2—MTC-100-C; 2—S-4; 1—S-8; 1—CH-X; 2—SWF-4; 1—XS-2, Size 8 1/4" x 7 1/2" x 3 1/4".

Code
OD-10—Foundation Unit List \$3.25

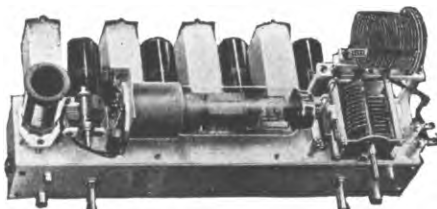
PA-500 500-WATT AMPLIFIER

The PA-500 is similar in design to the PA-300 but is capable of outputs up to and over 500 watts. All ports are held together with brackets properly formed and drilled ready for assembly. Standard variable link inductors are used in plate and grid circuits. This unit employs either the TCD-55-F plate condenser with a .230" plate spacing or the TCD-75-C with .200" spacing. The grid condenser can be either the TCD-165-K or the TCD-50-H depending upon the capacity required. PA-500 mounts directly on the panel—no chassis is necessary. Other Hammarlund parts required: 2—S-4 Sockets; 2—N-10 Neutralizing Condensers; 1—CH-500. Overall dimensions 15 1/2" high, 10 1/2" wide x 12" deep.



Code
PA-500—All brackets, screws, nuts, etc..... List \$4.25

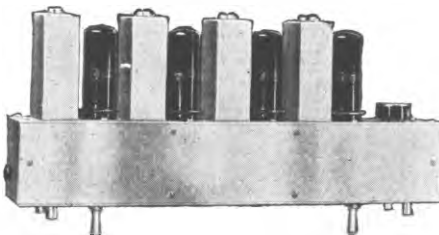
ED-4 100-WATT TRANSMITTERS



The ED-4 is the same as the EU-4 except that a power amplifier (RK-47, 814, etc.) has been added so that it can be used as a driver for the PA-500 or as a transmitter with an output of nearly 100 watts. This kit contains the same hardware as the EU-4 with the addition of a tube shield, bracket for mounting the tube socket, special spring plate connector, and 2 pillars for mounting standard plate coil. Other HAMMARLUND parts needed: Same as EU-4 plus 1—S-4 Socket; 1—S-5 Socket; 1—MC-100-5 Condenser; 1—MTC-100-B Condenser; 1—CHX; 3—SOS-100 Stand-off Insulators; 2—SOSP Insulator Hardware; 4—SWF-4 Coil Forms. Dimensions 17" long x 8" deep x 9 1/4" high. All parts aluminum.

Code
ED-4—Includes all hardware, nuts, screws, 2 switches, etc..... List \$13.50

EU-4 EXCITER UNIT



The new EU-4 4-band exciter unit is designed for amateurs who want a flexible and compact unit covering the 80, 40, 20 and 10 meter amateur bands. There are four stages employing 6L6 tubes. The first is an 80 meter crystal oscillator and the remaining three stages are for frequency multiplication. Band changing is accomplished with a single 4-point rotary switch. Another switch is provided for metering. Power output is sufficient to drive small and medium power beam tubes or pentodes. Foundation units includes all hardware for building the EU-4 and also the two special rotary switches. Other HAMMARLUND parts needed: 1—ETU-80; 1—ETU-40; 1—ETU-20; 1—ETU-10; 1—XS-2; 4—S-8 Sockets; 5—CHX R.F. Chokes. The EU-4 is 17" long x 8" wide x 2 3/4" high.

Code
EU-4—All hardware, nuts, screws, switches, etc..... List \$11.50



HAMMARLUND



NEW "HQ-120-X" AMATEUR RECEIVER



THE NEW HAMMARLUND "HQ-120-X" meets the most critical demands of amateur and professional operators. Hammarlund engineers have gone beyond ordinary practice in designing this new and outstanding receiver. This ultra-modern 12-tube superheterodyne covers a continuous range of from 31 to .54 mc. (9.7 to 555 meters) in six bands, taking in all important amateur, communication, and broadcast channels. The "HQ-120-X" is not to be confused with modified broadcast sets. Two years were required to develop it. This is a special receiver with special parts throughout. Every wave range is individual—that is, each range has its own individual coil and a tuning condenser of proper value for maximum efficiency; thus, including the broadcast band does not decrease efficiency at high frequencies. Besides having all the necessary features for perfect short wave reception, such as A.V.C., beat oscillator, send-receive switch, phone jack and relay terminals, the "HQ-120-X" also includes a new and outstanding crystal filter circuit which is variable in 6 steps from full

band-width to razor edge selectivity. This permits the use of the crystal filter for the reception of both voice and music. It is no longer necessary to contend with serious heterodyne interference. These annoying disturbances can be phased out with the phasing control on the panel. Other features include a new and accurate "S" meter circuit for measuring incoming signal strength; antenna compensator to compensate for various antennas, and 310 degrees band-spread for each amateur band from 80 to 10 meters. The band spread dial is calibrated in megacycles for each of these amateur bands. The main tuning dial is calibrated in megacycles throughout the entire range of the receiver. Rack Adapter \$6.00 extra.

Prices Include Speaker and Tubes

Code	Type	Tuning Range	Speaker	Net Price
HQ-120-X	Crystal	31 — .54 mc.	10" P.M. Dyn.	\$138.00
Speaker cabinet (metal) 12½" x 12½" x 7 inches				3.90

Special model finished in gray.....\$141.00 Net
Speaker Cabinet, gray to match..... 4.50 Net

Send for Descriptive Booklet!



NEW "SUPER-PRO"

THIS new 18-tube "SUPER-PRO" includes all the outstanding features which have made the "Super-Pro" famous, and in addition many recent developments have been added. The new "Super-Pro" has a variable selectivity crystal filter. This crystal filter has five positions of selectivity—3 for phone and 2 for CW. The variable crystal filter, in addition to the variable band width I.F., provides a selectivity range of from less than 100 cycles to approximately 16 kc. The new "Super-Pro" also has an improved noise limiter designed to minimize interference caused by automobile ignition systems and disturbances of similar nature. Maximum image suppression is obtained with two stages of high selectivity tuned R.F. ahead of the first detector. Three stages of I.F. are employed and there are three stages of high fidelity audio amplification resulting in an output of approximately 16 watts. A new and improved "S" meter has been installed in the "Super-Pro" for accurately reporting relative signal strength. Other features include full band-spread on all bands; beat oscillator; send-receive switch; relay connections; phone connections; connections for phono-pickup; beautifully finished modernistic cabinet. The sensitivity of the "Super-Pro" is better than 1 microvolt. Available in rack mounting type at \$10.50 extra.

Write for Circular!

Code	Type	Spkr.	Tuning Range	Net Price
SP-210-X	Crystal	10"	15 — 560 meters	\$279.00
SP-210-SX	Crystal	10"	7½ — 240 meters	279.00
SP-220-X	Crystal	12"	15 — 560 meters	294.00
SP-220-SX	Crystal	12"	7½ — 240 meters	294.00
PSC	10" Speaker Cabinet to Match Receiver			5.10

Special Models Covering Other Wave Ranges Available On Order



PAR-METAL

RACKS — PANELS — CABINETS



TYPE "A" DELUXE Enclosed Relay Racks

New streamlined styling with rounded corners at front features this rack. Top and bottom trimmed with chrome mouldings. Standard finish is slate grey ripple, black is optional. Panel mounting holes are drilled for both "Amateur" and "W.E." panels, tapped for 10/32 screws. Panels fit into recess to conceal edges. Shipped "knocked-down" with all necessary bolts for easy assembly.



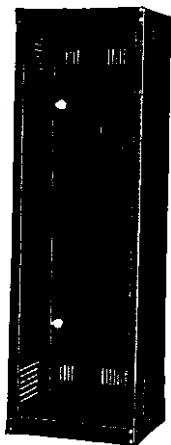
Cat. No.	Overall Size	Shpg.		Net Price
		Panel Space	Wt. lbs.	
ER-213	42 x 22 1/4 x 16 1/2"	36 3/4"	100	\$24.00
ER-215	66 1/2 x 22 1/4 x 16 1/2"	61 1/4"	150	31.50
ER-217	82 1/4 x 22 1/4 x 16 1/2"	77"	175	37.50

Roller truck to fit above racks. Equipped with swivel type rubber compo wheels, 2" dia.

RT-411\$6.30

TYPE "A" Enclosed Relay Racks

Constructed of heavy steel finished in black ripple enamel. Panel mounting holes are drilled for both "Amateur" and "W.E." panels, tapped for 10/32 screws. Sides have louvres to provide ample ventilation. Back panel in form of a door with heavy latch; has two screen sections for additional ventilation. Comes knocked down, with all necessary nuts, bolts and washers. Easy to assemble. Ideal for the professional type amateur transmitter.



Cat. No.	Overall Size	Shpg.		Net Price
		Panel Space	Wt. lbs.	
ER203	42 x 21 x 16 1/2"	36 3/4"	75	\$19.80
ER205	66 1/2 x 21 x 16 1/2"	61 1/4"	135	26.40
ER207	82 1/4 x 21 x 16 1/2"	77"	165	32.40

Roller truck to fit above racks. Equipped with swivel type rubber compo wheels, 2" dia.

RT-401\$5.70

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Desk Panel Cabinet Racks DELUXE TYPE



Especially designed to house transmitters, P.A. systems, etc. Afford neat, professional appearance. All take standard 19" panels. Very attractive in design having rounded corners at the vertical front edges and chromium finished trim at the top and bottom. Constructed of 1/16" steel. Have doors with heavy latch for access to chassis. Sides have louvres for ventilation. Come complete with panel mounting screws and washers. Panel holes tapped 10/32 for both "Amateur" and "W.E." panels. Standard finish black ripple. Slate grey is optional.

Cat. No.	Overall Size	Panel Space	Hinged Doors	Net Price
DL-128	10 1/2 x 21 x 13 1/2"	8 3/4"	Top Only	\$7.50
DL-1225	14 x 21 x 13 1/2"	12 1/4"	Top Only	9.00
DL-1413	15 3/4 x 21 x 13 1/2"	14"	Top Only	10.20
DL-1713	19 1/4 x 21 x 13 1/2"	17 1/2"	Top-Rear	11.85
DL-2613	28 x 21 x 13 1/2"	26 1/4"	Rear Only	13.20
DL-3513	36 3/4 x 21 x 13 1/2"	35"	Rear Only	14.85

STANDARD TYPE



Same as above with square corners. No mouldings. Finished in black ripple enamel.

Cat. No.	Overall Size	Panel Space	Hinged Doors	Net Price
SC-128	8 3/4 x 19 x 13 1/2"	8 3/4"	Top Only	\$4.80
SC-1225	12 1/4 x 19 x 13 1/2"	12 1/4"	Top Only	6.00
SC-1713	17 1/2 x 19 x 13 1/2"	17 1/2"	Top-Rear	9.00
SC-2613	26 1/4 x 19 x 13 1/2"	26 1/4"	Rear Only	9.60
SC-3513	35 x 19 x 13 1/2"	35"	Rear Only	11.40

Standard Relay Racks

These sturdy steel racks are constructed of 1/2" steel, welded corners at top. Finished in black ripple enamel. Racks are for use with standard 19" long panels, and are accurately drilled for both "Amateur" and "W.E." panels, tapped for 10/32 screws. Substantially braced base to prevent wobble and to keep units in correct alignment. Ideal for use with all types of Transmitters or for Public Address Systems.



Cat. No.	H. W. D.	Panel Space	Shpg. Wt.	Net Price
RR195	7 3/4 x 20 x 16"	7 1/4"	85 lbs.	\$12.00
RR193	38 1/4 x 20 x 13"	36 3/4"	57 lbs.	9.75

Table Type Relay Racks FOR 19" RACK PANELS

Intended for table mounting. Mounting holes are drilled for both "Amateur" and "W.E." panels, tapped 10/32 thread. Finished in black ripple enamel, and shipped knocked-down.



Cat. No.	H. W. D.	Panel Space	Shpg. Wt.	Net Price
TR250	25 x 20 x 12"	21 x 19"		\$3.75
TR3220	32 x 20 x 12"	28 x 19"		4.95

Sloping Front Cabinets

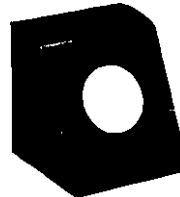
Adaptable as instrument case for studios, laboratories, etc. Top corner is rounded, trimmed with chrome moulding. Finish slate grey ripple. Chassis mounts to removable front panel. Chassis not included.



Cat. No.	H. W. D.	Size of Chassis	Net Price
SF-500	8 x 8 x 8"	7 x 7 x 2"	\$2.40
SF-501	8 x 10 x 8"	7 x 9 x 2"	2.55
SF-502	8 x 14 x 8"	7 x 13 x 2"	2.85
SF-503	9 x 18 x 8"	7 x 17 x 3"	3.90
SF-504	12 x 18 x 12"	10 x 17 x 3"	4.80

Steel Meter Cases

Made from steel, finished in black ripple enamel. Size is 4 1/2" x 4" x 4".



Cat. No.	Meter Size	Net Price
SM-12-2"		\$7.5
SM-13-3"		7.5



PAR-METAL

RACKS — PANELS — CABINETS



Amplifier Foundation Units DELUXE SLOPING FRONT

Similar to commercial Deluxe amplifiers. Redstriped chrome moulding and handles. Front panel protrudes 3" from screen cover. Slate grey ripple finish. Bottom plates included.



Cat. No.	Chassis Size	Screen Cover	Net Price
F-10120	10x12x3"	6 1/2" high	\$4.50
F-10170	10x17x3"	6 1/2" high	5.25
F-13170	13x17x3"	6 1/2" high	5.85

REGULAR DELUXE TYPE

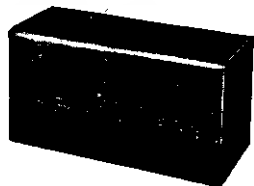
Modern professional type. Rounded corners on screen cover. Chrome mouldings and handles. Cover finished in slate gray, with black ripple chassis.



Cat. No.	Chassis Size	Depth of Cover	Shpg. Wt.	Net Price
DF510	5x10x3"	5 3/4"	9 lbs.	\$2.40
DF615	6x14x3"	5 3/4"	10 lbs.	2.85
DF717	7x17x3"	5 3/4"	11 lbs.	3.30
DF1012	10x12x3"	5 3/4"	11 lbs.	3.30
DF1017	10x17x3"	5 3/4"	13 lbs.	3.90

STANDARD TYPE

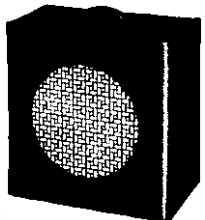
New design with rounded streamline corners and grille. Cover finished in slate grey, with black ripple chassis.



F510	5x10x3"	6"	9 lbs.	\$1.53
F615	6x14x3"	6"	10 lbs.	1.80
F717	7x17x3"	6"	11 lbs.	2.25
F1012	10x12x3"	6"	11 lbs.	2.25
F1017	10x17x3"	6"	13 lbs.	2.70

Loud Speaker Cabinets

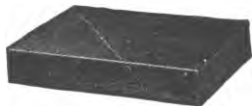
Made from steel. Rounded front corners, with handle and louvred back cover. Black ripple finish.



Cat. No.	Hole Size	Spkr. Size	Cabinet Size	Shpg. Wt.	Net Price
C 996	4 1/2"	6"	10x10x6"	8 lbs.	\$2.25
C1170	6 1/2"	8"	12x12x7"	9 lbs.	2.76
C1380	9 1/2"	10"	14x14x8"	15 lbs.	3.60
C1580	11"	12"	16x16x8"	20 lbs.	4.80

H-64

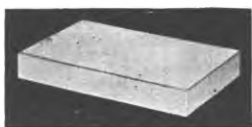
HEAVY DUTY TYPE Blank Steel Chassis Bases



These Chassis are for heavy duty jobs. Made from 1/16" steel with welded corners and reinforcing flanges at bottom. Furnished with removable bottom plates and necessary screws.

Black Ripple	Cadmium Plated	Dimensions	Net Price
15280	15208	8x17x2"	\$1.62
15281	15209	8x17x3"	1.80
15282	15218	11x17x2"	1.80
15210	15219	11x17x3"	1.95
15212	15214	13x17x2"	2.10
15213	15215	13x17x3"	2.31
15216	15217	13x17x4"	2.55

STANDARD TYPE Blank Steel Chassis Bases



These chassis are intended for all purposes where a heavy duty chassis is not required. Stamped from one piece of No. 20 gauge cold rolled steel; four solid sides with welded corners. Bottom edges folded in to provide additional reinforcement.

Black Ripple	Cadmium Plated	Size	Net Price
B-4500	C-4500	5 1/2 x 9 1/2 x 1 1/2"	\$.45
B-4508	C-4508	5x10x3"	.60
B-4509	C-4509	6x14x3"	.72
B-4510	C-4510	7x 7x2"	.54
B-4511	C-4511	7x 9x2"	.60
B-4512	C-4512	7x11x2"	.66
B-4513	C-4513	7x13x2"	.72
B-4514	C-4514	7x15x3"	.90
B-4518	C-4518	4x17x3"	.75
B-4515	C-4515	7x17x3"	.90
B-4531	C-4531	8x17x2"	.96
B-4532	C-4532	8x17x3"	1.02
B-4525	C-4525	10x12x3"	.96
B-4524	C-4524	10x14x3"	1.02
B-4528	C-4528	10x17x2"	1.02
B-4526	C-4526	10x17x3"	.90
B-4527	C-4527	10x23x3"	1.20
B-4533*	C-4533*	11x17x2"	1.23
B-4534*	C-4534*	11x17x3"	1.38
B-4516	C-4516	12x17x2"	1.14
B-4517	C-4517	12x17x3"	1.20
B-4530	C-4530	12x17x4"	1.32
B-4535*	C-4535*	13x17x2"	1.50
B-4536*	C-4536*	13x17x3"	1.71
B-4537*	C-4537*	13x17x4"	1.95

* Made from 1/16" thick steel.

Steel Utility Boxes

Made from sheet steel. Front and back removable. Black ripple finish. Complete with S.T. screws.



Cat. No.	Size	Shpg. Wt.	Net Price
MC-442	4x4x2"	2 lbs.	\$.54
MC-453	4x5x3"	3 lbs.	.60
MC-666	6x6x6"	3 lbs.	.69
MC-1276	12x7x6"	5 lbs.	1.41
MC-1597	15x9x7"	9 lbs.	1.95

Net

TYPE "A" Steel Rack Panels



Made in accordance with standard specifications. They are 19" long and will fit the relay racks described. Constructed of 1/8" steel.

Black Ripple	Slate Grey	Width	Net Price
3600	G-3600	1 3/4"	\$0.45
3601	G-3601	3 1/2"	.51
3602	G-3602	5 1/4"	.63
3603	G-3603	7"	.69
3604	G-3604	8 3/4"	.84
3605	G-3605	10 1/2"	1.02
3606	G-3606	12 1/4"	1.20
3607	G-3607	14"	1.38
3608	G-3608	15 3/4"	1.56
3609	G-3609	17 1/2"	1.74
3610	G-3610	19 1/4"	1.86
3611	G-3611	21"	2.10

Chassis Mounting Brackets

For heavy duty chassis with holes to fit. Made from 1/16" steel, with black ripple finish. Prices are net.

SB78—For 8" base	per Pair	\$.54
SB711—For 11" base	per Pair	.81
SB713—For 13" base	per Pair	.99

Hinged Utility Steel Cabinets

STANDARD TYPE

These cabinets are excellent for housing monitors, oscillators, etc. They have full piano hinged doors at the top; the front panels are removable. Finished in black ripple enamel.



Cat. No.	H. L. D.	For Chassis	Net Price
CA-100	7 1/4 x 10 1/2 x 6"	5 1/2 x 9 1/2 x 1 1/2"	\$1.65
CA-101	7 1/4 x 8 x 8"	7 x 7 x 2"	1.68
CA-102	7 1/4 x 10 x 8"	7 x 9 x 2"	1.95
CA-103	7 1/4 x 14 x 8"	7 x 13 x 2"	2.16
CA-104	9 x 15 x 10 1/2"	10 x 14 x 3"	3.30
CA-105	12 x 18 x 12"	10 x 17 x 3"	3.90

DELUXE TYPE

A New streamlined type with rounded front corners. Finished in slate grey ripple enamel. No chassis included.



Cat. No.	H. L. D.	Panel Size	For Chassis	List Price
CA-200	8x10x 8"	8x 8"	7x 7x2"	\$2.10
CA-201	8x12x 2"	8x10"	7x 9x2"	2.25
CA-202	8x16x 8"	8x14"	7x13x2"	2.65
CA-203	9x17x11"	9x15"	10x14x3"	4.50
CA-204	12x20x12"	12x18"	10x17x3"	5.40

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WIRELESS INSTRUMENTS

SIGNAL

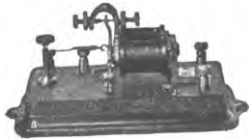
TELEGRAPH INSTRUMENTS



**112-K
KEY**

This key is designed for learners who want something that is scientifically correct but moderate in price. Has black enamel metal base and is mounted on a mahogany finished wood base. Key lever is nickel plated. Contact points are platinum.

List \$2.50



PONY RELAY

All the metal parts on this pony relay are brass with lacquer finish, excepting armature which is polished and plated steel. Magnets are non-adjustable. Mounted on a mahogany finished wood sub base and cast iron black enamel base.

List

M-104—4 Ohm	\$6.50
M-105—20 Ohm	6.75
M-106—50 Ohm	7.00
M-107—75 Ohm	7.25



**R-48
KEY**

The beginner in the field of wireless approves this 1/4 K. W. Key for its desirability and inexpensiveness. It is well made with polished key lever and lacquered parts. Contact points are platinum.

List \$2.80

R-68 PRACTICE SET



Designed for those who want a well made instrument to learn the code. Set consists of a key and high frequency buzzer mounted on a mahogany finished wood base equipped with binding posts. The code is printed on a plate and fastened to the base between the key and buzzer. Buzzer is adjustable.

List \$3.40

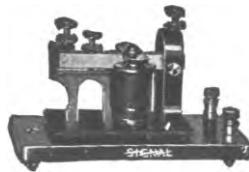
R-60 BUZZER



The R-60 high frequency buzzer is the same type used on the R-68 Wireless Practice Set. It is adjustable and has a standard resistance of 2 Ohms.

Finish is black crystallized lacquer.

List \$1.25

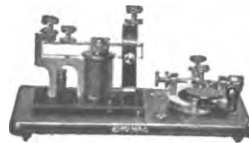


SOUNDER

The tone quality and instant action of this correctly designed sounder are well and widely known. All adjustments are simple and accurate. Bar frame is black enamel and has an aluminum sounding bar, brass bridge and black lacquered steel sounder plate. It is mounted on a mahogany finished wood base equipped with binding posts.

List

112-S—4 Ohm	\$3.50
113-S—20 Ohm	3.75



LEARNER SET

On city, private and short lines learners will find this instrument easy to handle and having a clear, distinct tone. Bar frame and key base are black enamel, the bridge is brass, sounding bar is aluminum with black lacquered steel sounder plate. Key lever is nickel plated. Sounder and key are mounted on a mahogany finished wood base.

List

M-110—4 Ohm	\$5.75
M-111—20 Ohm	6.00



STANDARD KEY

This standard wireless key is designed to carry heavy currents. All brass construction with lacquer finish. Furnished with 3/16, 1/4 or 3/8-inch coin silver contacts. Navy type key knob.

List

R-62—3/16" contacts	3.50
R-63—1/4" contacts	3.60
R-64—3/8" contacts	3.85

R-70 TWIN PRACTICE SET



In this practice set is represented value that appeals to the beginner. Set includes two R-69 instruments, 75 feet of wire and instruction manual packed in an attractive, illustrative box.

List \$3.75

**M-100
KEY**



For rapid transmitting this key is preferred by skilled operators and beginners. The base, equipped with binding posts, is brass with a lacquer finish. Key lever is nickel plated. Furnished with platinum contact points.

List \$3.00

COMMERCIAL RELAY



The commercial relay is well designed and constructed for long, continuous service on commercial lines. Heel iron and armature are made of Norway iron. Has rubber covered adjustable coils. Mounted on mahogany finished wood sub base and cast iron black enamel base.

List

916—150 Ohm	\$12.50
917—250 Ohm	12.75

**KEY
R-50**



For the amateur who wants an inexpensive, high grade wireless key, here is the proper instrument. It is equipped with a heavy, cast, well insulated base in a black finish, coin silver contacts, composition knob and nickel parts.

List \$1.50

R-69 PRACTICE SET



The R-69 Practice Set is for those who want an inexpensive instrument. Consists of a key lever, non-adjustable buzzer and code plate mounted on a metal base equipped with binding posts and rubber feet. Has maroon finished base and gold lacquered key lever and buzzer cover.

List \$1.75

ELECTRIC • SIGNAL • DRILLS

1/4" Light Duty

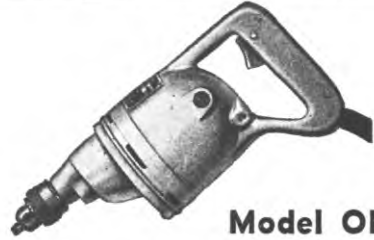


Model OB-8

\$19.50 List

The OB-8 light duty drill is designed for intermittent service. It is a good, high quality product, properly balanced, with an air-cooled handle having a comfortable grip. Light in weight, it is especially adaptable for radio repair work, wood and metal assembly, airplane construction, boat building and kindred applications.

1/4" Standard Duty

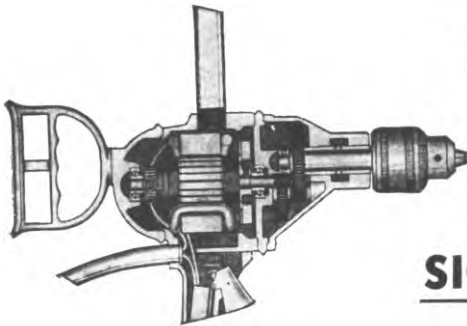


Model OB-4

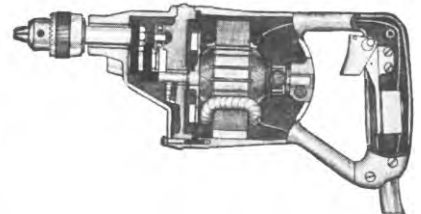
\$24.50 List

For general maintenance, construction and building work the OB-4 standard duty drill will give dependable service. It is popular with electricians, carpenters, machinists and repairmen. It has an abundance of power developed by a smooth-running universal motor. It is well balanced, has a comfortable grip and air-cooled handle.

Inside Views



of



SIGNAL DRILLS

1/2" Standard Duty



Model OB-5

\$47.50 List

This standard duty half-inch drill has everything a good drill should possess—lots of power, proper speed, light weight, durability, high quality construction and correct balance. For general production, garage, machine shop and maintenance work where a drill receives hard use, it is recommended. Contractors, plumbers, electricians, and others will find it can be depended upon to give efficient service at all times. Attractively priced, this drill has established for itself a fine reputation that is recognized by users and distributors alike.

SPECIFICATIONS

Motor: Universal for direct or alternating current, 110-120 volts, 25-60 cycles.

	OB-8	OB-4	OB-5
Code Word	SEMED	SEMEB	SEMEC
List Prices (110-120 volts)	\$19.50	\$24.50	\$47.50
Special Voltages	10 percent addition list.		
Overall Length	12"	12 3/8"	16 1/2"
Bearings	Bronze wool packed with thrust ball spindle bearing.		Armature and spindle thrust high grade ball.
Capacity	1/4"	1/4"	1/2"
Speed (No load R.P.M.)	2950	1700	400
Amperes (No load)	1.0	.9	1.8
Switch	Trigger type with lock for continuous operation.		
Cord Length	8 feet	8 feet	15 feet
Net Weight	5 1/2 lbs.	7 1/4 lbs.	14 lbs.
Shipping Weight	7 lbs.	8 lbs.	16 lbs.
Pipe Handle	Detachable		
Cord	Heavy duty, rubber covered with rubber cord protector.		
Plug	Rubber.		
Brushes	Accessible from outside.		
Gears	Special alloy, heat treated.		
Housing	Durable aluminum alloy.		
Chuck	Almond, 3-jaw, with key.		

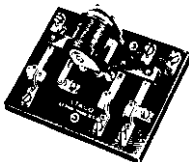
QUALITY

STACO

RELAYS

STACO BREAK-IN RELAYS

These relays are commonly known as Push-To-Talk relays. The operator merely presses a push-button while transmitting and releases it when receiving. Large contact spacing and insulation make these units ideal for high voltage and general control applications. Relays have a ball-bearing armature pivot, are made of the finest magnetic iron, and have 4 ampere, $\frac{3}{16}$ " fine silver contacts. There are four poles: DPDT, SPST (normally open), and SPST (normally closed) for complete break-in operation.



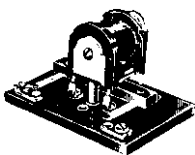
Size: $4\frac{1}{2}$ " x $3\frac{1}{8}$ " x $2\frac{3}{16}$ "

PRICES AND MODELS

Type	Insulation	Coil Voltage	Net Prices
BBA	TRIPLE-X	110 V. AC	\$4.20
BBD	TRIPLE-X	6 V. DC	4.20
BMA	MYCALEX	110 V. AC	6.00
BMD	MYCALEX	6 V. DC	6.00

STACO GENERAL PURPOSE AND RADIO FREQUENCY RELAYS

A fine relay for R.F. or high voltage remote control. 4-ampere, $\frac{1}{16}$ " fine silver contacts. Extremely short R.F. path. No AC chatter. Ball-bearing floating armature pivot. Highest quality iron in magnetic path. All metal parts are cadmium plated.



These units are ideal for industrial control applications. The large contact spacing and wiping action makes these units applicable to solenoid control.

The RB series are Triple-X insulated for frequencies up to 15 MC, while the RM series are MYCALEX insulated for frequencies up to 60 MC.

All AC coils consume 4 watts, DC coils consume 2 watts.

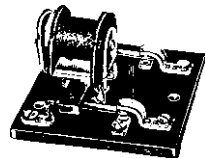
Size: $2\frac{1}{4}$ " x $3\frac{1}{8}$ " x $2\frac{3}{16}$ "

PRICES AND MODELS

Type	Insulation	Contact Combination	Coil Voltage	Net Prices
RBA-1	TRIPLE-X	SPST (dble.-break)	110 V. AC	\$1.65
RBD-1	TRIPLE-X	SPST (dble.-break)	6 V. DC	1.65
RMA-1	MYCALEX	SPST (dble.-break)	110 V. AC	2.25
RMD-1	MYCALEX	SPST (dble.-break)	6 V. DC	2.25
RBA-2	TRIPLE-X	DPST (sgle.-break)	110 V. AC	1.95
RBD-2	TRIPLE-X	DPST (sgle.-break)	6 V. DC	1.95
RMA-2	MYCALEX	DPST (sgle.-break)	110 V. AC	2.55
RMD-2	MYCALEX	DPST (sgle.-break)	6 V. DC	2.55

STACO CHANGE-OVER RELAYS

Fine radio frequency relays designed especially for use in low power transmitters where transmission and reception are near the same frequency and where radio frequency currents do not exceed 4 amperes. By connecting the coil of the relay across 110



volt, 60 cycle primary of the plate supply transformer, the antenna is automatically switched from the transmitting to the receiving position, when the transmitter is off.

Triple-X insulation for operation up to 15 MC, while MYCALEX is satisfactory for operation up to 60 MC. Wiping fine silver 4-ampere, $\frac{3}{16}$ " contacts, ball-bearing armature pivot, large contact spacing with minimum of capacity between contact arms. Well designed armature structure eliminates all AC chatter.

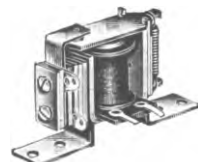
Size: $3\frac{1}{8}$ " x $3\frac{1}{8}$ " x $2\frac{3}{16}$ "

PRICES AND MODELS

Type	Insulation	Coil Voltage	Net Prices
ABA	TRIPLE-X	110 V. AC	\$2.55
ABD	TRIPLE-X	6 V. DC	2.55
AMA	MYCALEX	110 V. AC	3.45
AMD	MYCALEX	6 V. DC	3.45

STACO MINIATURE RELAYS

This sensitive relay is constructed of the finest grade of materials yet is one of the lowest priced relays. Designed for vacuum plate circuit and general control applications.



Type MR-2 has a coil of 2500 ohms resistance, will pick-up at 6 ma., and will drop-out at 3 ma. Type MR-5 has a coil of 5000 ohms resistance, will pick-up at 2 ma. and drop-out at 1 ma. The pick-up and drop-out values given are average values and may be changed as these relays feature a spring tension adjustment.

All AC units are free of hum and AC chatter. All contacts are rated at 5 amperes at 110 volts AC. All metal parts are cadmium plated with the exception of the contacts.

Size: $1\frac{7}{8}$ " x $1\frac{3}{8}$ " x 1"

PRICES AND MODELS

Type	A.C.	D.C.	Contacts	Net Prices
MR-2		Plate Circuit	SPDT	\$1.05
MR-5		Plate Circuit	SPDT	1.95
MR-6		4-6 V.	SPDT	.96
MR-7	6 V.		SPDT	1.23
MR-11	110 V.		SPDT	1.35
MR-12		120 V.	SPDT	1.05

QUALITY

STACO

RELAYS

STACO COMMUNICATION RELAYS



Admirably suited for use in telephone, remote control, signaling, communication circuits, etc. High sensitivity combined with high contact pressure makes these units ideal for use in plate circuits of electronic tubes. These relays are capable of high speed operation and may be used for marginal and on-off control. Contacts will handle 4 amperes at 110 volts AC for non-inductive loads. Each relay has one make and one break contact sets. Relays having two make (designated MM) or two break (designated BB) contact sets can be supplied at no extra charge. Coils can be left in the circuit continuously when used according to their ratings.

Size: 3 3/4" x 1 3/16" x 1 1/8"

SPECIFICATIONS AND PRICES

Type	Res. of Coil Ohms	Volts Pick-up	M. A. Pick-up	Net Prices
T10G	10,000	31	3.2	\$2.70
T63F	6,300	24	4.0	2.70
T40F	4,000	19	5.0	2.50
T10F	1,000	10	10.0	2.25
T25E	250	5	20.0	2.00

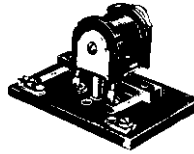
STACO CODE OSCILLATOR AND KEYING MONITOR



Code practice oscillator for individual or group practice. Comprised of an audio oscillator and permanent magnet dynamic speaker enclosed in an attractive grey crackled finish cabinet with a handsome red nameplate and plastic carrying handle. The front panel has an AC switch, a key jack, and an audio pitch selector. Provisions on the back of unit for an additional key and speaker for two way code practice. An additional speaker may be added without the necessity of adding an output transformer. The volume is ample for class room instruction.

CP-7—Complete with tube..... Net \$7.35

STACO KEYING RELAYS



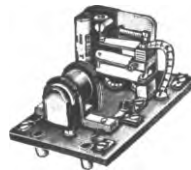
These relays are essentially the same as the Type RBA-1 relays only that the coil and return springs are stronger so that the units are adapted to high speed operation. The contacts are SPST (double-break), are widely spaced, and will break voltages of 1500 volts. Follows a "bug" easily. Not recommended for any other applications except keying; for other applications see Types RBA-1, etc. Quality construction, bakelite insulation, 3/16" fine silver contacts. Well insulated to ground.

Size: 2 1/4" x 3 1/8" x 2 3/16"

PRICES AND MODELS

Type	Coil Voltage	Contacts	Net Prices
KBA	110 V. AC	SPST (double-break)	\$1.65
KBD	6 V. DC	SPST (double-break)	1.65

STACO TIME DELAY RELAYS



Low cost thermostatic time delay relays designed for transmitting and industrial uses. Prevents damage to tube filaments from application of plate current before filaments are warmed up. The TD-11 unit is equipped so that it automatically compensates itself for ambient temperature changes. These units are adjustable for delays as shown below by means of a screw driver adjustment.

PRICES AND MODELS

TD- 4 (15-45 Sec.)—Without compensator Net \$4.50
TD-11 (5-60 Sec.)—With compensator Net 6.45

OTHER STACO RELAYS

STACO manufactures a complete line of burglar alarm, mercury-switch, television, micro-switch, and many other types of relays on special order. Your inquiries are solicited.



"ADJUST-A-VOLT" VARIABLE TRANSFORMERS

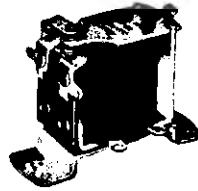
The ADJUST-A-VOLT Variable Transformer fills the need for a portable and efficient variable voltage regulator providing smooth control of AC lines, power, heat, light, and speed. Essentially a heavy-duty auto transformer specially designed for voltage regulation. A self-lubricating moving contact which taps each turn of the winding provides the means of voltage adjustment. Voltages between 0-140 volts are available, and voltages in the vicinity of zero are obtainable. The output is essentially independent of the load and is adjustable to 4/10 of a volt. In addition to the units listed below there is now available a 3 KVA ADJUST-A-VOLT.



ELECTRICAL SPECIFICATIONS AND DIMENSIONS

Type	Input Voltage	Output Voltage	Output Amperes	Maximum Rating	Overall Dimensions	Shipping Weight	Net Prices
SA 5	115	0-140	7.5 (max.)	860 V. A.	6 3/4" x 9 1/8" x 5 1/2"	16 Lbs.	\$10.80
SA 10	115	0-140	15.0 (max.)	1500 V. A.	6 3/4" x 9 1/8" x 8 1/4"	30 Lbs.	25.00

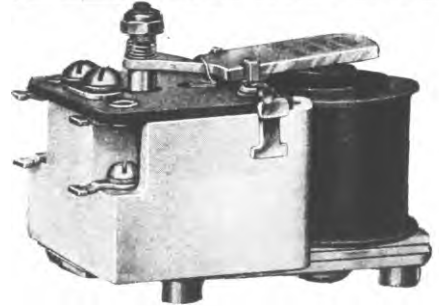
ALLIED



RELAYS



**Fully
Guaranteed**



TYPE P.C. RELAY

COILS—Impregnated. Navy type on special order.

PLATING—Cadmium.

DIMENSIONS—Over-all: $2\frac{5}{8}$ " long x $1\frac{1}{2}$ " high x $1\frac{1}{8}$ " wide.

CONTACT RATING—5 amperes of non-inductive A.C. at 110V A.C. Not to exceed 10 operations per minute.

PLATE CIRCUIT TYPES—The 2500 ohm P.C. 1 can be set to pull in from 6 to 8 mills and to drop out at 3 to 5 mills. The 5000 ohm, P.C. 2, will pick up at 2 to 3 mills, and drop out at 2 to $1\frac{1}{2}$ mills.

STANDARD STOCK TYPES are available in standard voltages, A.C. and D.C., as shown in our Relay Data sheet. Coils for any voltage between 1 and 220V A.C. and 5 and 125V D.C. can be had in lots of 100 or more without extra charge. For quantities of less than 100, an additional charge will be made for winding the coils.

DOUBLE POLE-DOUBLE THROW—The D.P.D.T. contacts are insulated from frame. They can be supplied in all the relays listed below. See price list for extra charge.

ALLIED P.C. TYPE RELAYS—Are being used in quantities in a wide variety of applications, such as burglar and fire alarm, radio receivers and transmitters, inter-communications equipment, public address systems, test instruments, photo-electric devices, electronic switches, timers, small motor starting, etc.

Type	Operating Volts		Contacts	Net Price
	A.C.	D.C.		
P.C. 1		Plate circuit	S.P.D.T.	\$1.10
P.C. 2		Plate circuit	S.P.D.T.	2.15
P.C. 3	6.3		S.P.D.T.	1.25
P.C. 4	110		S.P.D.T.	1.35
P.C. 6		4-6	S.P.D.T.	.94
P.C. 7		10-12	S.P.D.T.	.94
P.C. 8		24	S.P.D.T.	.94
P.C. 9	24		S.P.D.T.	1.25
P.C. 10		110	S.P.D.T.	1.10
P.C. 11		220	S.P.D.T.	2.15

P.C. types in D.P.D.T.—ADD \$0.50 TO S.P.D.T. PRICES

Copyright by U. C. P., Inc.

TYPE D RELAY

COILS have heavy protective wrap and are vacuum impregnated. Navy type coils available.

CONTACT SECTION—New type construction giving equal distribution of pressure on all contacts. Current is not carried on actuating springs.

MOUNTING—Special metal brackets of ungrounded construction.

PLATING—Nickel and cadmium.

CONTACT RATING—10 amperes of non-inductive A.C. at 125 volts. Also special contacts for dynamotor starting with ratings up to 30 amperes continuous on 6 and 12 volt battery D.C.

DIMENSIONS— $2\frac{1}{4}$ " long x $2\frac{5}{8}$ " high x $2\frac{1}{4}$ " wide.

USES—Police, Aircraft and Marine Radio applications such as antenna transfer, filament control and dynamotor starting. Alarm and signal devices. A.C. types for general industrial control applications.

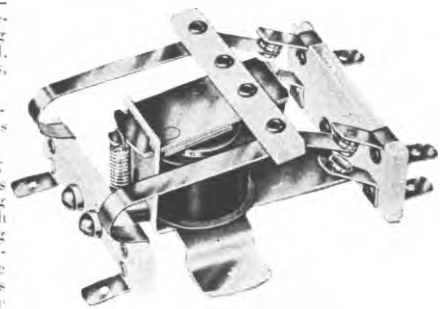
Type	Operating Voltage			Net Price
	A.C.	D.C.		
D. 1		4-6	D.P.D.T.	\$2.15
D. 2		10-12	D.P.D.T.	2.15
D. 3	6.3		D.P.D.T.	2.50
D. 4	110		D.P.D.T.	2.50
D. 5		4-6	S.P.D.T.	2.35
D. 6		10-12	S.P.D.T.	2.35

HIGH FREQUENCY RELAYS

APPLICATION—Antenna change-over; Switching of band, crystal or tank circuits, etc.

COILS—Impregnated, continuous duty.

CONSTRUCTION—All parts plated; Alsimag insulation with wide spacing throughout. Double pole, double throw contacts with ample wipe and high contact pressure. One quarter inch fine silver rivets. Standard "Allied" mounting bracket. Size: $3\frac{3}{4}$ " x $2\frac{1}{2}$ " x $1\frac{3}{4}$ ".



Type	Operating Voltage	Net Price
H. 1	6V D.C.	\$3.25
H. 2	12V D.C.	3.25
H. 3	125V D.C.	3.25
H. 4	6V A.C.	3.25
H. 5	12V A.C.	3.25
H. 6	125V A.C.	3.25

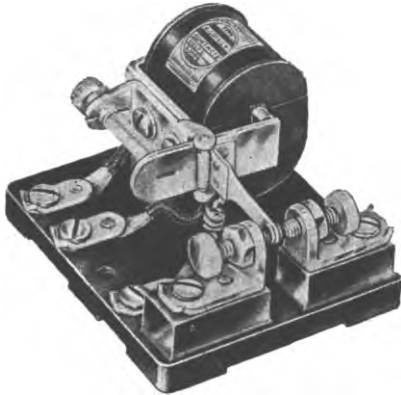
NOTE: A smaller relay, type HR, similar to the above, is also available. Dimensions: $2\frac{1}{4}$ " x $1\frac{5}{8}$ " x $1\frac{3}{8}$ ". Prices same as the H type relay. Type HX, similar to HR, has 3P-D.T. contacts. Price \$0.75 extra

Net

H-71

ALLIED

CIRCLE SENSITIVE RELAY



The CIRCLE line of relays are highly sensitive on A.C. They are exceedingly rugged and develop unusually high contact pressure and wipe. Another unique feature is that they can be made in Double Pole Double Throw.

CIRCLE relays are precision made and are assembled on a moulded bakelite base which can easily be utilized for front or back connections on panel board mounting. The magnetic structure is of a special heat treated alloy, and the novel hinge arrangement using a stainless steel pin with brass bearings assures long life under the most severe operating conditions.

Applications — Most suitable for thermal regulators, electronic devices, ultra sensitive control circuits; in low current supervised circuits such as burglar and fire alarms, voltage control circuits, keying, timing devices, etc.

SPECIFICATIONS

SENSITIVE	A.C.	D.C.
Operating Characteristic—	As low as 1 mill at 110V 60 cycles with a 50% drop out value.	As low as .012 watts with 80% drop out value.
Coils—	1 volt to 220 volts 300% overload. Vacuum impregnated.	1 volt to 220 volts 150% overload. Vacuum impregnated.
Contact Rating—	1 amp at 48V D.C.	1 amp at 48V D.C.
Contact	5 amps at 110V A.C.	5 amps at 110V A.C.
Arrangement—	S.P.D.T. and D.P.D.T.	S.P.D.T. and D.P.D.T.
Dimensions—	2 3/8" wide x 2 3/4" long x 1 3/4" high.	
General—	Relays adjustable throughout. Furnished with Bakelite Base.	
Contacts—	Coin silver on standard models. Special contacts to specification.	
KEYING	Built to specifications. Will operate up to 1000 cycles per minute. This line is a variation of the above sensitive type.	

PRICES

Type No.	Operating Voltage	Net Price
BD330	S.P.D.T. 1 — 5 V D.C.	\$5.75
BD338	S.P.D.T. 6 — 20 V D.C.	5.75
BA324	S.P.D.T. 3 — 10 V A.C.	5.75
BA342	S.P.D.T. 90 — 150 V A.C.	5.75
CA342	S.P.D.T. Plate Circuit 1 mill	5.75
CA344	S.P.D.T. Plate Circuit 0.25 mill	7.75
DD344	S.P.D.T. Hi Speed Keying Relay	8.90

For D.P.D.T. Add \$3.00 to Net Price

CIRCLE RELAYS

J TYPE RELAYS



J-1



J-2



J-3

Our "J" relays were designed especially for applications where small space and resistance to vibration are important requirements. They are built primarily for Army, Navy, and Aircraft applications.

Type No. J-1 is designed to offer minimum base mounting area. All lugs are on the panel where they are readily accessible for soldering. This relay is available with contacts from S.P.S.T. to D.P.D.T. Series type contacts can be supplied in S.P.D.T. All contacts are insulated from frame. 1 1/2" high, 1 1/8" wide, and 1 3/32" length.

Type No. J-2 is available in S.P.S.T. to S.P.D.T. On standard models contacts are not insulated from frame. 5/8" high, 1 1/8" wide, and 1 5/8" length.

Type No. J-3 is available in S.P.S.T. to S.P.D.T. Contacts are not insulated from frame on standard models. 1" high, 1" wide, and 1 1/2" length.

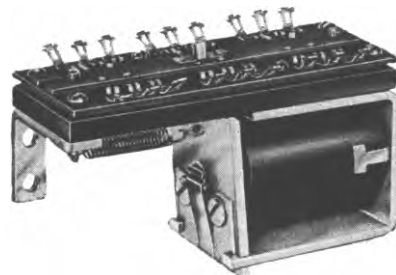
Coil Voltage: D.C. — 1 to 40 volts; A.C. — 6 to 110 volts.

Contact Rating: 5 amperes at 110 volts 60 cycle A.C. non-inductive load.

PRICES

J-1	Net	J-2	Net	J-3	Net
D.P.D.T.	\$3.50	S.P.D.T.	\$2.50	S.P.D.T., D.C.	\$1.10
S.P.D.T.	3.25	Insulated		S.P.D.T., A.C.	1.35
D.P.S.T.	3.00	Armature	3.00	Insulated	
S.P.S.T.	3.00			Armature	1.85

BAND SWITCH RELAY—Type RX100



This is a 6 pole - double throw relay. The contacts are silver plated and of the type which are self-cleaning. They maintain an extremely low contact resistance which is of particular

advantage under conditions of high humidity and vibration. Insulation is X2B hard rubber which has excellent characteristics for high frequency circuits. The actuating mechanism is amply powered to insure positive operation in all positions.

Dimensions — 3 3/4" long x 1 1/2" wide x 2 1/4" high. Coils — Vacuum impregnated for voltages from 5 to 110 volts D.C. and for 5 to 220 volts A.C.

Contact Rating — 80 watts at 110 volts A.C.

Applications — Well suited for high frequency circuit switching and other multi-contact applications where low contact resistance and good insulation is required.

Prices — A. C. Net.....\$6.00 D.C. Net.....\$5.50

ALLIED

PHOTO-RELAY UNITS

THESE UNITS are compact, rugged, sensitive, and low priced. They are easily mounted and adjustable as to sensitivity. No inside connections are necessary. Standard sockets are on the units and all connections can be made by standard light plugs.

Both units are ideal for house, store, office, or factory applications. Uses are as follows: alarms, opening and closing doors, turning lights on or off; to operate bells, chimes, horns, buzzers, or various types of signals; to start motors, close valves, or run safety devices. Other applications are in counting, regulating, sorting, and smoke control.



Type PR-1

DESCRIPTION—Type No. PR-1 is a photo-amplifier relay unit for use where relatively large amounts of light are available. It operates on both A.C. and D.C. currents. Type No. PR-2 is a sensitive photo-amplifier relay unit for use where reliable operation on relatively small amounts of light is desired. Type No. PR-3 is for applications where it is either impossible or undesirable to use a separate light source. It is similar to type PR-2 except the light source is contained in the same unit and it requires the use of a mirror. Both types PR-2 and PR-3 are for A.C. only. Type PR-4 is a small independent light source operating on the A.C. or D.C. line and will throw a concentrated beam up to 50 feet.

SENSITIVITY—Type PR-1 has an operating range up to 15 feet. Types PR-2 and PR-3 will operate up to 50 feet, using the PR-4 light source.

ADJUSTMENTS—A screw driver adjustment is provided at the back of the box of all photo relay units to regulate the quantity of light necessary to operate the relay.

DIMENSIONS—Type PR-1 is 5 3/4" long, 4 1/8" high, and 1 3/4" wide. Types PR-2 and PR-3 are 7 1/4" long, 5 1/4" high, and 2 1/4" wide. Type PR-4 is 3 1/2" long, 1 3/4" high and 1 3/4" wide. All units are housed in sheet metal boxes with an attractive grey krinkle finish.

MOUNTING—Types PR-1, 2, and 3 all have ears conveniently located so that the unit can be mounted against the wall, on a shelf, ceiling, or on a mounting bracket. Type PR-4 has a two-way bracket so it can be readily focused in the proper direction.

POWER CONNECTION—All units have a 6 foot power cord and plug for connection to any standard 110V outlet.

OUTPUT CONNECTION—Types PR-1, 2 and 3 have double sockets. The bottom socket supplies power to operate any 110 volt device when the light is shown on the photo tube; the top socket supplies power when the light beam is interrupted. The maximum rating on standard models is 300 watts controlled power for A.C. and 100 watts for D.C.

POWER CONSUMPTION—The power consumption of each unit, PR-1 through P-4 is not over 20 watts.



Types PR-2 and PR-3

All of the above units have been designed by Mr. Frank H. Shepard, Jr., of Merchantville, New Jersey, one of the leading authorities in this field. For applications where special work is required, we recommend his services in a consulting capacity.

We have prepared a valuable booklet called "Photo Relays. Theory and Applications." This booklet covers the theory of the photo relays, their applications and includes many diagrams. The dealer price is.....\$0.25



Type PR-4

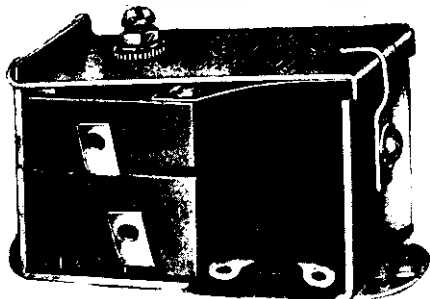
Type	Description	Net Price
PR-1	One-stage amplification	\$ 9.00
PR-2	Two-stage amplification without light source.....	12.00
PR-3	Two-stage amplification with light source	14.50
PR-4	Light source only.....	2.50

ACCESSORIES LIST FOR PHOTO RELAY

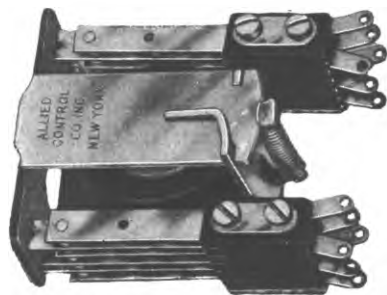
Chime — one tone, 6-8V A.C.	\$ 1.00
Fire Alarm Bell, 110V A.C.....	8.50
Bell, 6-8V A.C.....	.50
Transformer, 115V A.C. to 6-8V A.C.....	.75
Mirror	1.50
Vibrating horn, 115V A.C.	12.00
Electric counter without reset, 115V A.C.....	6.00
Electric counter with reset, 115V A.C.....	10.00
Automatic door opener complete with 115V A.C. 1/6 H.P.	100.00
Type D-4 relay 12A @ 115V A.C.	2.50
Locking relay 110V A.C. 5A @ 110 V A.C.	2.00
Electric Valve Water or oil 110V A.C., 3/8" S.P.T.....	9.00

Variations in the listed accessories are available on request.

ALLIED RELAYS - SWITCHES



Fully
Guaranteed



TYPE S RELAYS

INCORPORATING THE H-C SEALED SWITCH

COILS—Impregnated.

CONTACT SECTION—H-C sealed switch maximum rating 1650 volt amperes at 125 or 220V A.C., 1/2 H.P. at 125V A.C., 10-12 amperes of 6 or 12V Battery D.C.

DIMENSIONS—3" long x 1 3/8" wide x 1 1/2" high.

Type	Contacts	Operating Voltage	Net Price
S.1	Normally open	6V D.C.	\$2.25
S.2	Normally open	12V D.C.	\$2.25
S.5 & S.6	Same as above except normally closed		\$2.25
S.9 & S.10	Same as above except S.P.D.T.		\$2.40

For further information on contact section see H-C sealed switch specifications.

TYPE K RELAYS

COILS—Available in same specifications as P.C. and D. relays.
CONTACT SECTION—Standard pile-up assemblies; springs of tinned phosphor bronze, fine silver rivets. The bakelite insulator moving the spring assemblies is constructed to hold the springs in positive alignment.

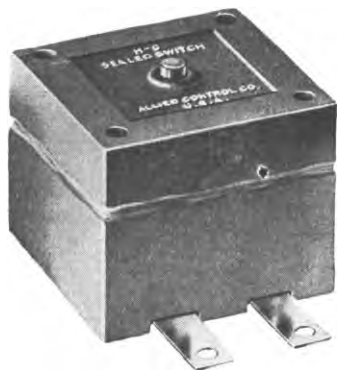
Type	Operating Voltage	Contacts	Net Price
K. 1	4-6	4-P.D.T.	\$3.00
K. 2	10-12	4-P.D.T.	3.00
K. 3	6.3	4-P.D.T.	3.25
K. 4	110	4-P.D.T.	3.25
K. 9	4-6	2-P.D.T.	2.50
K. 10	10-12	2-P.D.T.	2.50
K. 11	6.3	2-P.D.T.	2.75
K. 12	110	2-P.D.T.	2.75

MOUNTING—Single screw mounting or standard metal bracket.
CONTACT RATING—Standard contact, 1 ampere at 110V A.C. non-inductive. Contacts up to 5 amperes at 110V A.C. non-inductive supplied when specified.

DIMENSIONS—Over-all: 2 1/2" long x 1 1/4" x 2" wide.

STANDARD STOCK ITEMS—Stock is carried in 2 and 4 pole double throw, in 6 and 12V D.C. and 110V A.C. Quantity orders made to specifications.

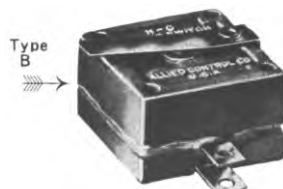
H-C SWITCHES—HERMETICALLY SEALED



Type A



Type C



Type B

NEW H-C SEALED SWITCHES IN CERAMIC CASES SPECIALLY TREATED AND HERMETICALLY SEALED AGAINST MOISTURE AND DIRT.

The ceramic cases are treated to make them impervious to the penetration of gases under normal atmospheric conditions and are resistant to deterioration by ordinary oils, salt water, etc. The switch and parts will stand temperatures as high as 300° F. on relatively light electrical loads.

ELECTRICAL DATA—Type C switches have been approved by the Underwriters' Laboratories for 7.5 amps at 250V A.C.; 15 amps at 125V A.C.; and 1/2 H.P. at 125V A.C. These ratings are based

on a speed of 10 operations per minute for the maximum current. They will also operate satisfactorily on 10-12 amperes of battery D.C. at 6-12 volts. The number of operations per minute can be increased in direct proportion to the reduction in the current carried.

Type A switch is rated at 50 amperes at 125 volts A.C. Type B is 5 amperes at 125 volts A.C. Both A. and B. are available only in S.P.S.T., normally open or closed.

Type	Pressure	Differential Pressure	Travel Make or Break	Over Travel	Net Price
C-1 & C-2	4-6 oz.	2 oz.	0.008-0.010	0.012	\$.75
C.1 & C.2	10-12 oz.	2 oz.	0.002-0.003	0.010	.75
C.3	4-6 oz.	2 oz.	0.008-0.010	0.012	1.00
C.3	10-12 oz.	2 oz.	0.003-0.004	0.010	1.00
A.1	4-6 lbs.	2-3 lbs.	0.012	0.050	3.00
A.2	4-6 lbs.	2-3 lbs.	0.012	0.050	3.00
B.1	1-3 oz.	1/2-1 oz.	0.001-0.003	0.060	.27
B.2	1-3 oz.	1/2-1 oz.	0.001-0.003	0.060	.27

Variations can be supplied to meet conditions that do not fall within these ranges.

APPLICATIONS—Thermostats, Automatic Scales, Relays, Conveyor Contacts, Foot Switches, Liquid Level Control, Valve Limit Switches, Time Switches, Motor Starting.

MOUNTING SUGGESTIONS—The load on the plunger should not exceed 1 1/2 to 2 pounds on the light switches and 4 pounds on the heavy. By employing leaf springs or hinged fulcrums on the top of the switch, allowances can be made for over-travel, and the pressure to actuate the switch can be decreased. For instance, on the

standard 4 oz. switch a 2" fulcrum will operate the switch at 1 oz. with a 3/8" travel to make or break. Any two of the four holes may be used in mounting the switch. All conductor lugs from the switch are on one face, which leaves 4 faces free for mounting.

TYPE C UNDERWRITERS' LAB. INC. INSPECTED 7.5A, 250 V A.C.; 15A, 125V A.C.; 1/2 HP, 125V A.C. Patents, U.S. 2,174,888; Great Britain 508021; France 830456; Belgium 425.067; Sweden 95146.

Practice Sets
Buzzers

SPEED

Transmitting and
High Speed Keys

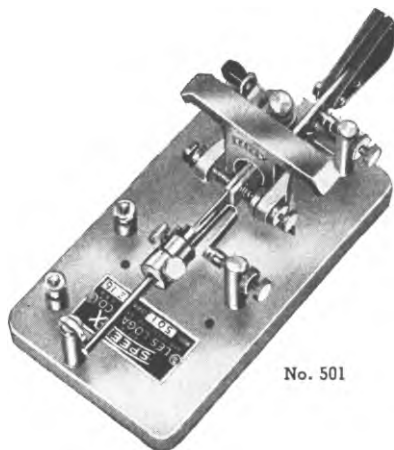
TELEGRAPH KEYS FOR EVERY PURSE AND PURPOSE

HIGH SPEED SEMI-AUTOMATIC KEYS

SPEED-X Semi-Automatic Keys are designed and constructed to rigid specifications and are approved by the experienced professional and amateur C. W. operators. They are fully adjustable from lowest to highest speeds. Manufactured in four distinctive and attractive models. Fully guaranteed against any defect in material or workmanship. Bases of all models drilled for stationary mounting.

STANDARD MODEL No. 500. New-Improved Standard Model Semi-Automatic Key mounted on extra heavy steel base $3\frac{1}{2} \times 6\frac{1}{4} \times \frac{1}{2}$ " finished in attractive black wrinkle baked enamel. Mounted on four rubber feet to insure stationary position at all times. The finish will not scratch or chip and will last indefinitely. The frame is finished same as base and has five adjustments with lock nuts, assuring dependable operations at all speeds. Vibrator arm, posts, switch and all machine parts heavily plated in beautiful polished chromium. Complete with two adjustable weights, two sets $\frac{1}{8}$ " pure silver contacts, one No. 380 cord and plug, circuit-closing switch and two paddles adjustable to any desired height. Net Weight $4\frac{1}{2}$ lbs.

No. 500—List Price \$13.50 Net \$8.10
No. 500-L (Left-handed model) List \$15.50 Net \$9.30



No. 501

PROFESSIONAL MODEL No. 501. New-Improved Beautiful Polished Chromium Plated Heavy Steel Base $6\frac{1}{4} \times 3\frac{1}{2} \times \frac{1}{2}$ " with four non-slip rubber feet. Heavy brass connector strips mounted under base. Frame is a Polished Chromium Brass Casting with five screws for sensitive adjustments. Vibrator is designed to obtain slowest and fastest speeds required by high speed operators. Two sets of $\frac{1}{4}$ " pure silver contacts. Pigtail connections to vibrating arm. Perfectly aligned free acting vibrator bearings. Lock nuts on all adjustments. Paddles adjustable to any required height. All machine parts heavily chrome plated, which makes this the most outstanding semi-automatic key on the market. Furnished with circuit closing switch and No. 380 Cord and Plug. Net Weight $4\frac{1}{2}$ lbs.

No. 501—List Price \$17.50 Net \$10.50
No. 501-L (Left-handed model) List Price \$19.50 Net \$11.70



No. 515

AMATEUR MODEL No. 515. Baked Black Crinkle Enamel Finished Steel Base $6\frac{1}{4} \times 3 \times \frac{3}{8}$ " with four rubber feet to prevent slipping or tilting. Heavy Brass connector strips. Die Cast Frame finished same as base with adjustable trunion screws. Polished Chromium Brass Vibrator has main spring and U-spring made of clock spring for smooth snappy action. Two adjustable weights. Two adjustable black fibre paddles. Two sets $\frac{1}{8}$ " pure silver contacts. Lock nuts for every adjustment. Deadener wheel, posts, screws, springs and terminals polished chrome plated. Packed in attractive carton. Net Weight $3\frac{1}{4}$ lbs.

No. 515—List Price \$9.25 Net \$5.55
No. 515-L (Left-handed model)—List \$11.25 Net \$6.75

JUNIOR MODEL No. 510. Die Cast Base $2\frac{3}{4} \times 6 \times \frac{3}{4}$ " finished in black wrinkle baked enamel concealing heavy brass connector strips. Frame is same finish as base and all other parts are polished chromium plated. Vibrator Arm same as Standard model with lots of pep. Adjustable from eight words per minute to as high a rate as desired. Two sets of $\frac{1}{8}$ " pure silver contacts, two adjustable weights and two adjustable paddles. Circuit closing switch mounted on base. Being small, compact and streamlined, this semi-automatic key is an outstanding value. A light-weight but sturdy built machine for clean-cut sending. Net Weight $2\frac{1}{2}$ lbs.

No. 510—List Price \$10.75 Net \$6.45

REPLACEMENT PARTS

	List	Net		List	Net
No. 330 Adjustable Weight	\$0.25	\$0.15	No. 363 1" Chrome Screw	.15	.09
No. 335 Key Springs	.10	.06	No. 364 $\frac{1}{2}$ " Knurled Nut	.10	.06
No. 338 Dash Spring	.10	.06	No. 375 Vibrator Arm Comp.	3.00	1.80
No. 340 Set $\frac{1}{8}$ " Contacts	1.00	.60	No. 376 Vibrator Arm Only	1.75	1.05
No. 341 Set $\frac{1}{4}$ " Contacts	2.00	1.20	No. 370 Adjustable Paddle	.25	.15
No. 345 (2) $\frac{1}{8}$ " Contacts	.20	.12	No. 380 Cord and Plug	.75	.45
No. 346 (2) $\frac{1}{4}$ " Contacts	.50	.30	No. 390 U-Spring $\frac{1}{8}$ " Contact	.60	.36
No. 350 Knob	.20	.12	No. 391 U-Spring $\frac{1}{4}$ " Contact	.75	.45
No. 360 Navy Knob	.25	.15			
No. 362 $\frac{3}{4}$ " Chrome Screw	.13	.08			

No. 444 KIT

An assortment of the best selling parts for all makes of keys, selected from the above list, and packed in a beautiful display box. List price of complete kit \$20.00

NET PRICE . . . \$12.00



No. 370



No. 330



No. 335



No. 360



No. 350



No. 390

**Practice Sets
Buzzers**



**Transmitting and
High Speed Keys**

TELEGRAPH KEYS FOR EVERY PURSE AND PURPOSE

MOULDED BAKELITE KEYS, BUZZERS, PRACTICE SETS

SPEED-X Moulded Bakelite and Metal Hand Keys, Practice Sets and Buzzers are used throughout the world as standard equipment in amateur and commercial work. Each unit is built according to rigid specifications and is fully guaranteed. All models have holes for stationary mounting. Code card supplied with each individually packed unit.



No. 301

AMATEUR KEY No. 301—A general purpose key with moulded black bakelite base. Perfect insulation—adjustable smooth acting bearings—improved spring—polished nickel key arm—pigtail connections—no current on bearings— $\frac{1}{8}$ " pure silver contacts. Net Wt. 6 oz.

No. 301—List Price \$2.15 Net **\$1.29**
 No. 301-S with switch—List \$2.50 Net **1.50**
 Add "L" for $\frac{1}{4}$ " Contacts—Extra List \$.25 Net **.15**

PRACTICE KEY No. 300—A well-built and inexpensive practice key for the beginner. Moulded Brown Bakelite base and knob. Spring bearings, perfect action, simple adjustments. $\frac{1}{8}$ " pure silver contacts. All machine parts polished nickel plated. Standard Code card furnished. Net Wt. 5 oz.

No. 300—List Price \$1.50 Net **\$.90**

PRACTICE KEY No. 312—A standard fully adjustable hand key with $\frac{1}{8}$ " pure silver contacts mounted on a moulded brown bakelite base $2\frac{3}{4}$ " x 5" with circuit closing switch and terminal connections on base. Heavy base connector strips concealed under base. Key arm, switch and all machine parts polished nickel plated. Net Wt. 8 oz.

No. 312—List Price \$2.25 Net **\$1.35**

PRACTICE SET No. 450—Consists of one constant frequency adjustable buzzer and a standard hand key with $\frac{1}{8}$ " pure silver contacts mounted on a moulded brown bakelite light-weight base 6" x 4". Adjusting screws, key arm and all machine parts polished nickel plated. Light spring for perfect keying. A complete sending and receiving set. Three hook-up diagrams on carton show how this Practice Set may be used singly for code practice and in pairs for point to point communications. Standard Code Card included. Net Wt. 12 oz.

No. 450—List Price \$2.75 Net **\$1.65**



No. 450

CONSTANT FREQUENCY BUZZER No. 400—Moulded Black Bakelite Base and Cap eliminates insulation problems. Large pure silver contacts—precision parts hold adjustments. Additional adjustment on vibrator. Resistance 2 ohms. Operates on two dry cells or one "C" battery. A high quality buzzer for all purposes. Net Wt. 3 oz.

No. 400—List Price \$1.25 Net **\$.75**



No. 400

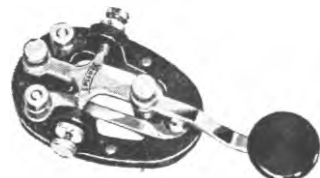
HEAVY DUTY METAL HAND KEYS



Nos. 300, 305, 306

METAL HAND KEY No. 305—An inexpensive metal base key with black wrinkled enamel finish. Smooth acting spring bearings and adjustable key arm spring. Key arm and all machine parts lacquered BRASS finish. $\frac{1}{8}$ " pure silver contacts. Net Wt. 10 oz.

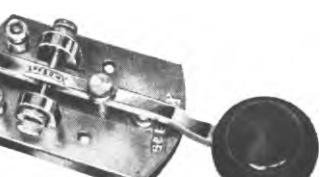
No. 305—List Price \$1.50 Net **\$.90**
 No. 306—Lacquered BRASS finish Base—List Price \$1.75 Net **1.05**



Nos. 310, 311, 316

STANDARD KEY No. 310—Heavy die cast base finished in black wrinkled enamel. Smooth adjustable bearings. $\frac{1}{8}$ " pure silver contacts. Has provisions for plugging in our semi-automatic keys when desired. Net Wt. 9 oz.

No. 310—List Price \$2.50 Net **\$1.50**
 No. 311—Chromium Base—List \$3.00 Net **1.80**
 No. 316—Lacquered BRASS Finish—List \$2.50 Net **1.50**
 Add "L" for $\frac{1}{4}$ " Contacts—Extra List \$.25 Net **.15**



Nos. 320, 321, 326

STANDARD KEY No. 310-S—Same specifications as Standard model key No. 310 with circuit closing switch mounted on base. $\frac{1}{8}$ " pure silver contacts. An attractive high-quality key. Net Wt. 10 oz.

No. 310-S—List Price \$3.00 Net **\$1.80**
 No. 311-S—Chromium Base with switch—List \$3.50 Net **2.10**
 No. 316-S—Lacquered BRASS Finish with switch—List \$3.00 Net **1.80**
 Add "L" for $\frac{1}{4}$ " Contacts—Extra List \$.25 Net **.15**

HEAVY DUTY KEY No. 320—Black wrinkle enameled extra heavy Die Cast Base. Large sturdy polished chromium plated key arm with adjustable steel bearings. Heavy brass connector strip concealed under base. Well insulated for heavy duty work. Improved Navy Type Knob and $\frac{1}{4}$ " pure silver contacts. Net Weight 12 oz.

No. 320—List Price \$3.25 Net **\$1.95**
 No. 321—Chromium Base—List \$3.50 Net **2.10**

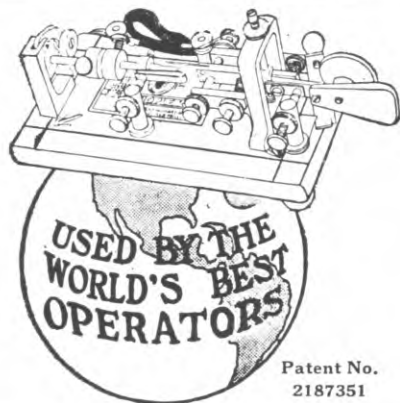
HEAVY DUTY KEY No. 326—Same specifications as Heavy Duty Model No. 320 but base finished in a beautiful Lacquered BRASS finish. Arm and machine parts chromium plated. Well designed spring gives this model a light keying touch. Navy Type Knob and $\frac{1}{4}$ " pure silver contacts. Net Wt. 12 oz.

No. 326—List Price \$3.25 Net **\$1.95**

The Vibroplex

A SEMI-AUTOMATIC TELEGRAPH AND WIRELESS TRANSMITTING MACHINE

Embodying the latest exclusive features



PROMINENT features which have contributed to the success of the Vibroplex are:

- Simplicity - Durability
- Perfect control - Easy adjustment
- Strong carrier - Ease of manipulation
- Adaptability to changing wire conditions
- Ability to transmit perfect Morse and Continental signals at high speed

These features, which are found only in the genuine Vibroplex models illustrated on these pages, make for clear, rapid, easy transmission; relieve the arm of strain caused by sending on the ordinary key; rest and

strengthen the overworked muscles, and prevent telegrapher's paralysis.

CLEAR, RAPID SENDING MADE EASY

The Vibroplex transmits the same grade of Morse and Continental code as the strongest clearest hand sender, faster than is possible on the ordinary key, and with less than half the labor.

There is no tensing of the muscles, no nerve strain, no pounding on the key in order to make clear, rapid signals. You simply press the lever—the machine does the rest.

THE "CHAMPION" VIBROPLEX

For Radio Use Only

The new "Champion" is an inexpensive transmitter having exceptional sending qualities . . . clarity . . . speed . . . sending ease, which will appeal alike to amateur and professional radio operators. Designed to meet the demand for a low priced Vibroplex in the radio field.



Designed to fulfill the demand for a low priced radio transmitter.

SPECIFICATIONS

Single lever with two pairs of contact points. Mounted on large standard size base. Weight 3 lbs. 8 oz. Without circuit closer, cord and wedge. Standard finish only. Chromium finished top parts, with black crystal base.

Amateur Net Price **\$9.95**

THE "ORIGINAL" VIBROPLEX



Suitable for all classes of transmitting work where speed and perfect Morse are prime essentials.

SPECIFICATIONS

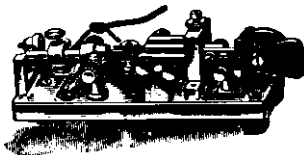
Old Style, Single Lever. Two pairs of contact points: one for dots, the other for dashes. Weight, 3 lbs. 8 oz. A handsome and efficient transmitting machine, with unlimited sending possibilities. Complete with cord and wedge. Finishes—Standard—Polished Chromium parts with black base.

Amateur Net Price **\$15.95**

DeLuxe—Polished Chromium, including base and jeweled movement **19.50**

THE "BLUE RACER" VIBROPLEX

Very similar to the Original Vibroplex except that it is only half the size. Suitable for all classes of telegraph work and in high favor with wireless men.



UNLIMITED SENDING POSSIBILITIES

Small and compact, the Blue Racer Vibroplex can be carried around and never be in the way. Embodies the same sending possibilities, the same carrying qualities, the same strength and durability as the larger models. Built especially to meet the demand of telegraphers requiring a small, lightweight and efficient sending machine.

SPECIFICATIONS

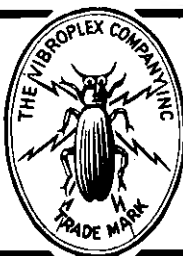
Single Lever. Two pairs of contact points—one for dots, the other for dashes. Weight, 2 lbs. 8 oz. Complete with cord and Wedge. Finishes—Standard—Polished Chromium top parts with black base.

Amateur Net Price **\$15.95**

DeLuxe—Polished Chromium, including base. With jeweled movement **19.50**

ALL THE VIBROPLEXES ILLUSTRATED ARE NOW EQUIPPED WITH LARGE 3/16 DIAMETER CONTACT POINTS, WHICH ARE THE SAME DIAMETER AS FURNISHED ON SPECIAL RADIO MODELS SELLING HERETOFORE UP TO \$25.00.

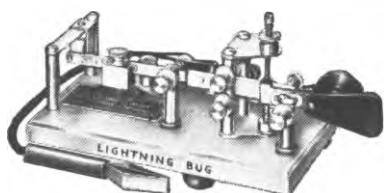
The Vibroplex



Telegraph & Wireless
Transmitting Machines

THE "LIGHTNING BUG" VIBROPLEX

One of the Latest Model Vibroplexes



Sending ease surpassing anything ever achieved in any sending machine.

HIGH QUALITY SIGNALS AT ALL SPEEDS

This Great New Vibroplex is the smoothest and easiest working BUG ever made. It has won fame on land and sea for its clarity, precision and ease of manipulation. Can be slowed down to 10 words per minute or less or geared to as high rate of speed as desired. Maintains the same high quality signal at whatever speed, insuring easy reception under all conditions.

SPECIFICATIONS

Single lever, with improved flat pendulum, instantly adjustable dot contact spring, circuit breaker parallel with pendulum. Two pairs of contact points, one for dots, the other for dashes. Complete with cord and wedge. Weight 3 lbs. 8 oz. Finishes—Standard—Polished Chromium top parts with black base.

Amateur Net Price **\$13.95**
DeLuxe — Polished Chromium, including base, and jeweled movement **17.50**



VIBROPLEX CARRYING CASE

Keeps the machine free from dust, dirt and moisture. Insures safe-keeping when not in use.

A plush-lined case, finished in handsome black morocco. Corners are reinforced, adding to its durability and attractiveness. A flexible leather handle makes it more convenient to carry. Has lock and key.

Amateur Net Price **\$3.50**

THE "ZEPHYR" VIBROPLEX



A Genuine Vibroplex. Slightly lighter in weight. Having plenty of "Pep" and "Power"

Smaller and more compact but designed in most details the same as the "Lightning Bug" model. Planned to meet the demand for a low priced, efficient and high speed transmitter for telegraph use.

SPECIFICATIONS

Single lever with standard size contact points. Mounted on slightly smaller base. Weight 3 lbs. 2 oz. Equipped with circuit closer, cord and wedge. Standard finish only. Chromium finished top parts, with black crystal base.

Amateur Net Price **\$12.50**

● For a limited time only all of the DeLuxe Model Vibroplexes are furnished with patented JEWEL MOVEMENT, without additional charge.

This special introductory price is subject to change without notice.

The JEWELS used in this Model Vibroplex are the same as placed in the World's finest precision made watches and instruments.

A JEWEL bearing main lever insures a "LIFETIME" of service and an ease of operation that can only be referred to as "FEATHER-TOUCH" sending.

ALL THE VIBROPLEXES ILLUSTRATED ARE NOW EQUIPPED WITH LARGE 3/16 DIAMETER CONTACT POINTS, WHICH ARE THE SAME DIAMETER AS FURNISHED ON SPECIAL RADIO MODELS SELLING HERETOFORE UP TO \$25.00.

RADIO TELEGRAPH APPARATUS *Manufactured by*

WORLD'S CHAMPION RADIO TELEGRAPHER



NEW!

SUPER STREAMSPEED

MODEL No. S600PC **\$1185** NET TO THE OPERATOR

STREAMSPEED — Model No. S600SC — with silver points instead of platinum. . . . \$950

Combining beauty and utility in a most striking fashion, this radically new, semi-automatic key is the last word in operating ease. Fast, rhythmical Morse is a real pleasure with this key.

- Streamlined base of special dense alloy. Wt. 4 lbs.
- Tear-drop shaped base makes it immovable on table.
- Heavily chromed with bluish tinge to prevent glare.
- Platinum alloy contacts, 3/16" diameter.
- Stainless steel coil springs and bearings.
- Beryllium copper mainspring and U spring.
- Bronze bearing screws.
- Bronze alloy pigtail.
- Bakelite insulation throughout.
- Molded plastic dot paddle and dash button.

Into this gorgeous speed key has gone Mac's 30 years operating experience supplemented by the finest engineering ability in the radio-telegraph industry . . . with their combined efforts coordinated under the styling genius of one of America's outstanding design artists. See it! Handle it! You'll have to own it!

PROFESSIONAL MODEL, MAC KEY



MODEL No. P500 **\$750**

NET TO THE OPERATOR

Designed to conform with United States Navy specifications for "speed key." It is just what its name implies: A fine Professional Operator's model Mac Key. Base 3 3/4" x 6 1/2" x 3/4" thickness. Beautifully black wrinkled over Parkerized base casting. Carefully designed super-structure, similarly finished.

Chromed parts, circuit closer, bakelite insulation, 3/16" silver contacts. A key that will thrill any radio or telegraph operator.



DELUXE MODEL, STREAMKEY

(See large illustration above)

MODEL No. 300—Net to the Operator. . . . **\$285**

Beautiful tear-drop streamlined base with same extra heavy, bluish tinged chrome finish used on the Super Streamspeed. All parts similarly chromed. Finely balanced and attractive key lever. Bronze bearing screws. Huge 3/16" contacts especially designed for these keys. There is a "feel" to these streamlined keys that'll thrill any operator!

PROFESSIONAL MODEL, STREAMKEY
(See small illustration above)

MODEL No. 200—Net to the Operator. . . . **\$180**

Same as Deluxe Model, except on pretty plastic base, choice of grey or black.

AMATEUR MODEL, STREAMKEY
(See small illustration above)

MODEL No. 100—Net to the Operator. . . . **\$100**

Same as Professional Model, except minus circuit closer and with cadmium parts. Black only.

AMATEUR MODEL, SPEED KEY

A speed key of this quality is available at this ridiculously low price only because Mac has written off all original production costs, such as patterns, jigs, dies, tools, etc., resulting from tremendous volume on the old style Standard and Deluxe Mac Key over the past five years. Nearly ten thousand of these excellent speed keys have been sold. Black wrinkled base, nickel-plated parts, no circuit closer. Here is a good speed key for the man who must watch costs, but wants a real operator's instrument.



MODEL No. A400

\$595 NET TO THE OPERATOR

T.R. McElroy



RADIO TELEGRAPH APPARATUS Manufactured by

WORLD'S CHAMPION RADIO TELEGRAPHER



• The Amazing OSCILLATONE

More than seven thousand oscillators has Mac built for operators during the past four years and one improvement after another has finally culminated in a genuine masterpiece.

- Beautiful plastic cabinet developed by the same artist who designed the "Stream-key" and "Super Streamspeed."
- AC-DC operation.
- Complete with tube and built-in reproducer.
- Toggle switch gives choice of low or high volume.
- Choice of 600 or 1000 cycle note.
- Thumb screw adjustment at back plate for further tone and volume control.
- Key click eliminator.
- Separate terminals for keying phones if desired.
- SET OF TERMINALS GIVES 75 VOLT DC OUTPUT TO KEY YOUR TRANSMITTER THROUGH YOUR RELAY.

MODEL No. S700 - Net to the Operator

\$695 Including Tube

Truly an outstanding piece of equipment that belongs on every operator's desk.

AC-DC AUDIO OSCILLATOR

MODEL No. A700
Net to Operator... **\$2.85**

Uses 117L7GT stocked by most distributors.

Price is less tube.

Only the world's larger builders of code equipment could turn out a fine quality practice oscillator such as this, at such an amazingly low price. Very pretty black plastic base with tube socket on top. Here is an oscillator that the operator can buy for less money than he can build one!



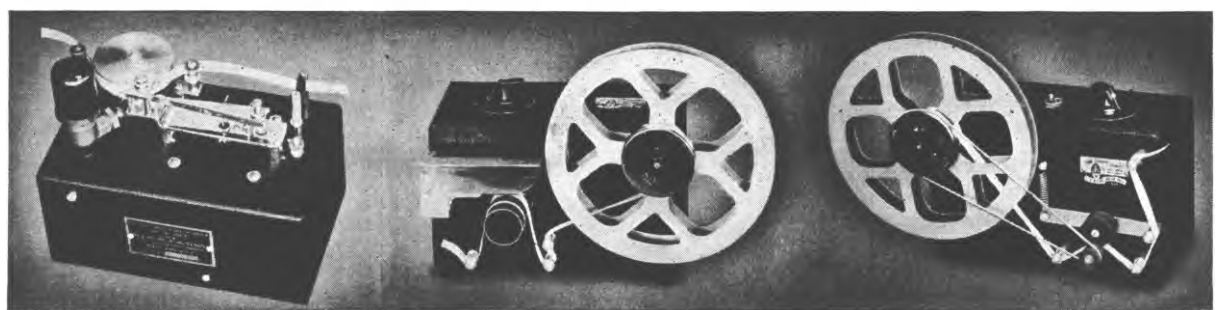
Battery Powered, Loud Speaking, AUDIO OSCILLATOR

MODEL No. B700
Net to Operator... **\$1.80**

Same pretty plastic cabinet as Model No. A700. Same huge 3/16" contacts as on Mac's keys. Center thumb screw for tone and volume control. Gives a swell 1000 cycle note. No phones needed. Uses 1 1/2 to 9 volts according to volume desired. Here at last is the answer to something better than squawky (and balky) buzzers!



COMPLETELY AUTOMATIC EQUIPMENT for TRANSMITTING and RECEIVING



MAC RECORDER

A commercial quality radio telegraph signal recorder capable of speeds in excess of 100 wpm. This is a real piece of equipment that can be used on nearly any regular commercial radio-telegraph circuit. Ask for separate descriptive circular.

MODEL No. R900 **\$2950**

MAC AUTO

Four years of constantly building and improving automatic radio-telegraph transmitters, has resulted in this fine piece of commercial quality apparatus. Uses the new 117L7GT type tubes and the RCA 913 photo-tube; Western Electric polarized relay. Good for 100 wpm. Uses ordinary commercial inked slip. Separate folder available.

MODEL No. PCT811 **\$2950**

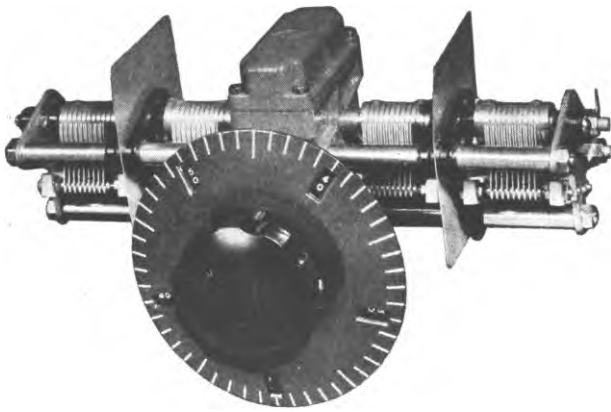
TAPE PULLER

Probably no one has devoted the time, energy and money that Mac has to develop a real high quality commercial type tape puller at a reasonable price. Powerful AC-DC motor with rheostat speed control. Built-in take up reel. All these three pieces of automatic equipment are built on the chassis 5" x 8" x 8". Weight of each piece approximately 10 lbs.

MODEL No. CTP1300 **\$2950**



NATIONAL PRECISION CONDENSERS



The Micrometer dial reads direct to one part in 500. Division lines are approximately $\frac{1}{4}$ " apart. The dial revolves ten times in covering the tuning range, and the numbers visible through the small windows change every revolution to give consecutive numbering by tens from 0 to 500. The condenser is of extremely rigid construction, with four bearings on the rotor shaft. The drive, at the mid-point of the rotor, is through an enclosed pre-loaded worm gear with 20 to 1 ratio. Each rotor is individually insulated from the frame, and each has its own individual rotor contact, of the multi-fingered brush type. Stator insulation is Steatite.

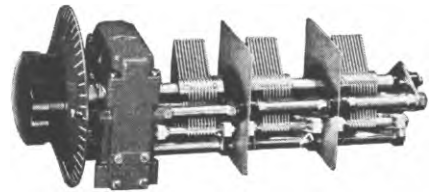
PW Ganged Condensers are available in 2, 3 or 4 sections, in either 160 or 225 mmf per section. Larger capacities cannot be supplied.

A single-section PW condenser with grounded rotor is supplied in capacities of 150, 200, 350 and 500 mmf, single spaced, and capacities up to 125 mmf, double spaced. Plate shape is straight-line-frequency when the frequency range is 2:1.

PW condensers and drives are all with rotor shaft parallel to the panel.

- | | |
|----------------------|--------------|
| PW-1, Single Section | List \$15.00 |
| PW-2, Two Section | List \$20.00 |
| PW-3, Three Section | List \$24.00 |
| PW-4, Four Section | List \$27.50 |

NOTE: When ordering specify capacity per section and desired position — right or left of dial.



NPW MODELS

NPW condensers are similar to PW models, except that the rotor shaft is perpendicular to the panel. They were originally designed for use in the NC-100. Prices include micrometer dial.

NPW-3, Three sections, each 225 mmf. List \$24.00

NPW-X, Three sections, each 25 mmf. List \$20.50



NPW-0



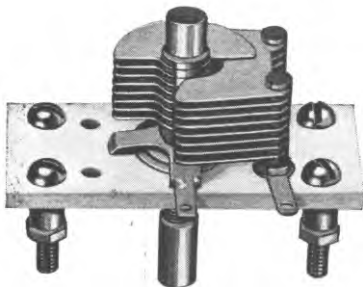
PW-0

DRIVE UNITS

Two drive units are available, each with micrometer dial and gear drive. The Type PW-0 uses parts from the PW condenser, and the drive shaft is parallel to the panel. Two Type TX-9 couplings are supplied. The NPW-0 uses parts from the NPW condenser, with the drive shaft perpendicular to the panel. One Type TX-9 coupling is furnished.

- | | |
|-------|--------------|
| PW-0 | List \$13.50 |
| NPW-0 | List \$10.50 |

NATIONAL RECEIVING CONDENSERS



TYPE UM

STRAIGHT-LINE CAPACITY
180° Rotation

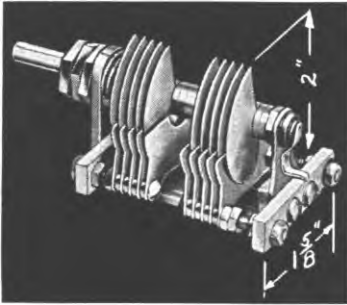
Dimensions: Base $1'' \times 2\frac{1}{4}''$
Mounting Holes: $\frac{5}{8}'' \times 1\frac{23}{32}''$
Overall Length: $2\frac{1}{8}''$

Capacity	Minimum Capacity	No. of Plates	Air Gap	Catalog Symbol	List Price
15 Mmf.	1.5	6	.017"	UM- 15	\$1.25
35	2.5	12	.017"	UM- 35	1.50
50	3	16	.017"	UM- 50	1.60
75	3.5	22	.017"	UM- 75	1.70
100	4.5	28	.017"	UM-100	1.90
25	3.4	14	.050"	UMA- 25	1.85
BALANCED STATOR MODEL					
25	2	4-4-4	.017	UMB- 25	\$1.85

The **UM CONDENSER** is designed for ultra high frequency use and is small enough for convenient mounting in our square shield cans. They are particularly useful for tuning receivers, transmitters, and exciters. Shaft extensions at each end of the rotor permit easy ganging when used with one of our flexible couplings. The **UMB-25** Condenser is a balanced stator model, two stators act on a single rotor. The UM can be mounted by the angle foot supplied or by bolts and spacers.



NATIONAL RECEIVING CONDENSERS

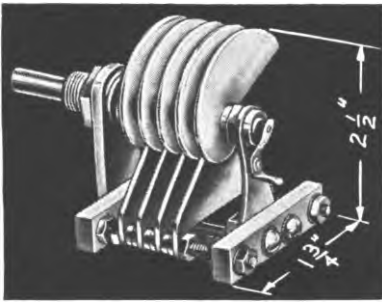


TYPE ST

(Type STD Illustrated)

STRAIGHT-LINE WAVELENGTH
180° Rotation

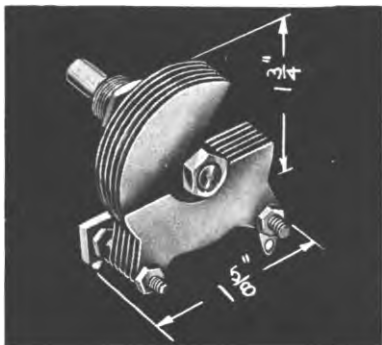
NOTE — Type SS Condensers, having straight-line-capacity plates but otherwise similar to the Type ST, are available on application. Capacities and Prices same as Type ST.



TYPE SE

(Type SEU Illustrated)

STRAIGHT-LINE FREQUENCY
270° Rotation



EXPERIMENTER

STRAIGHT-LINE CAPACITY

180° Rotation

H-82

Capacity	Minimum Capacity	No. of Plates	Air Gap	Length	Catalog Symbol	List
SINGLE BEARING MODELS						
15 Mmf.	3 Mmf.	3	.018"	1 3/8"	STHS-15	\$1.40
25	3.25	4	.018"	1 3/8"	STHS-25	1.50
50	3.5	7	.018"	1 3/8"	STHS-50	1.60
DOUBLE BEARING MODELS						
35 Mmf.	6 Mmf.	9	.026"	2 1/4"	ST-35	\$1.50
50	7	11	.026"	2 1/4"	ST-50	1.80
75	8	15	.026"	2 1/4"	ST-75	2.00
100	9	20	.026"	2 1/4"	ST-100	2.25
140	10	28	.026"	2 3/4"	ST-140	2.50
150	10.5	29	.026"	2 3/4"	ST-150	2.50
200	12.0	27	.018"	2 1/4"	STH-200	2.75
250	13.5	32	.018"	2 3/4"	STH-250	3.00
300	15.0	39	.018"	2 3/4"	STH-300	3.25
335	17.0	43	.018"	2 3/4"	STH-335	3.50
SPLIT STATOR DOUBLE BEARING MODELS						
50-50	5-5	11-11	.026"	2 3/4"	STD-50	\$3.50
100-100	5.5-5.5	14-14	.018"	2 3/4"	STHD-100	4.50

The **ST Type** condenser has Straight-Line Wavelength plates. All double-bearing models have the front bearing insulated to prevent noise. On special order a shaft extension at each end is available, for ganging. On double-bearing single shaft models, the rotor contact is through a constant impedance pigtail. Isolantite insulation.

Capacity	Minimum Capacity	No. of Plates	Air Gap	Length	Catalog Symbol	List
15 Mmf.	7 Mmf.	6	.055"	2 1/4"	SEU-15	\$2.50
20	7.5	8	.055"	2 1/4"	SEU-20	2.75
25	8	9	.055"	2 1/4"	SEU-25	2.75
50	9	11	.026"	2 1/4"	SE-50	2.25
75	10	15	.026"	2 1/4"	SE-75	2.50
100	11.5	20	.026"	2 1/4"	SE-100	2.75
150	13	29	.026"	2 3/4"	SE-150	3.00
200	12	27	.018"	2 1/4"	SEH-200	3.00
250	14	32	.018"	2 3/4"	SEH-250	3.25
300	16	39	.018"	2 3/4"	SEH-300	3.25
335	17	43	.018"	2 3/4"	SEH-335	3.50

TYPE SE — All models have two rotor bearings, the front bearing being insulated to prevent noise. A shaft extension at each end, for ganging, is available on special order. On models with single shaft extension, the rotor contact is through a constant impedance pigtail. The SEU models (illustrated) are suitable for high voltages as their plates are thick polished aluminum with rounded edges. The other SE condensers do not have polished edges on the plates. Isolantite insulation.

Capacity	Minimum Capacity	Length	Air Gap	No. of Plates	Catalog Symbol	List
15 Mmf.	3.5	1 3/8"	.045"	5	EX-15	\$.85
25	3.75	1 3/8"	.045"	7	EX-25	.85
35	3.75	1 3/8"	.045"	10	EX-35	1.00
50	4	1 3/8"	.017"	6	EX-50	.90
100	4.75	1 3/8"	.017"	12	EX-100	1.00
140	5.5	1 3/8"	.017"	15	EX-140	1.25

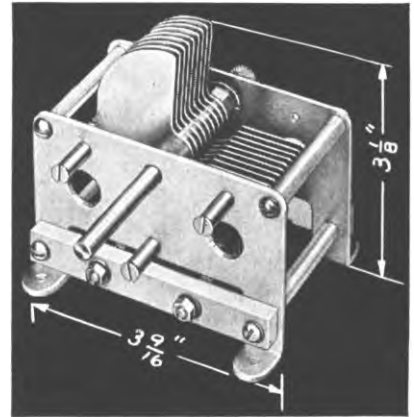
The National "Experimenter" Type Condensers are low-priced models suitable for general experimental work. They are of all-brass construction. The rotor has only one bearing. Plates can be removed without difficulty if desired. Bakelite insulation.

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NATIONAL GENERAL PURPOSE CONDENSERS

Capacity	Minimum Capacity	No. of Plates	Length	Catalog Symbol	List
150 Mmf.	9	9	4"	EMC-150	\$3.25
250	11	14	2 $\frac{1}{8}$ "	EMC-250	3.75
350	12	20	2 $\frac{1}{2}$ "	EMC-350	4.25
500	16	27	4 $\frac{3}{8}$ "	EMC-500	4.75
1000	22	55	6 $\frac{3}{4}$ "	EMC-1000	7.25
SPLIT-STATOR MODEL					
350-350	12-12	20-20	6"	EMCD-350	\$7.50



STRAIGHT-LINE WAVELENGTH
180° Rotation

National EMC Condensers are made in large sizes for general purpose uses. They are similar in construction to the TMC Transmitting condenser, and have high efficiency and rugged frames. Insulation is Isolantite, and Peak Voltage Rating is 1000 Volts. Plate shape is Straight Line Wavelength.

NATIONAL PADDING CONDENSERS

US — See table — Type US condensers are small, compact, low-loss units. Their soldered construction makes them particularly suitable for applications where vibration is present. Adjustment is made with a screw driver. Steatite base.

USE — See table — Type USE condensers are similar to Type US, but are provided with a $\frac{1}{4}$ " diameter shaft extension at each end.

USL — See table — Type USL condensers are similar to Type US, but are provided with a rotor shaft lock, so that the rotor can be clamped at any setting.



Capacity	Catalog Symbol			List
25 mmf.	US-25	USE-25	USL-25	\$1.30
50	US-50	USE-50	USL-50	1.50
75	US-75	USE-75	USL-75	1.70
100	US-100	USE-100	USL-100	1.90
140	US-140	USE-140	USL-140	2.25

M-30 List \$3.30

Type M-30 is a small adjustable mica condenser with a maximum capacity of 30 mmf. Dimensions $1\frac{3}{16}$ " x $\frac{9}{16}$ " x $\frac{1}{2}$ ". Isolantite base.

W-75, 75 mmf. List \$2.25

W-100, 100 mmf. List \$2.50

Small padding condensers having very low temperature coefficient mounted in an aluminum shield $1\frac{1}{4}$ " in diameter.

NATIONAL NEUTRALIZING CONDENSERS



NC-600U List \$5.55
With standoff insulator

NC-600 List \$4.45
Without insulator

The NC-600 and NC-600U are for neutralizing low power beam tubes requiring from .5 to 4 mmf, and 1500 max. total volts such as the 6L6. The NC-600U is supplied with a GS-10 standoff insulator screwed on one end, which may be removed for pigtail mounting.

STN List \$2.00

The Type STN neutralizing condenser has a maximum capacity of 18 mmf (3000 V), making it suitable for such tubes as the 10 and 45. It is supplied with two standoff insulators.

TCN List \$4.00

The Type TCN neutralizing condenser is similar to the TMC. It has a maximum capacity of 25 mmf (6000 V), making it suitable for the 203A, 211 and similar tubes.

NC-800 List \$3.00

The NC-800 disk-type neutralizing condenser is suitable for the RCA-800, 35T, HK-54 and similar tubes. It is equipped with a micrometer thimble and clamp. The chart below gives capacity and air gap for different settings.

NC-75 List \$4.00
For 75T, 808, 811, 812 & similar tubes.

NC-150 List \$6.50
For HK354, RK36, 300T, 852, etc.

NC-500 List \$12.50
For WE-251, 450TH, 450TL, 750TL, etc.

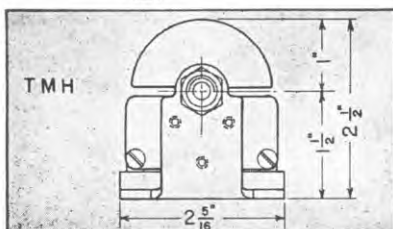
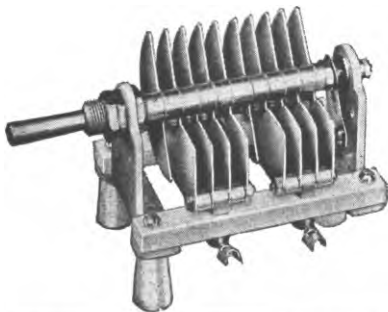
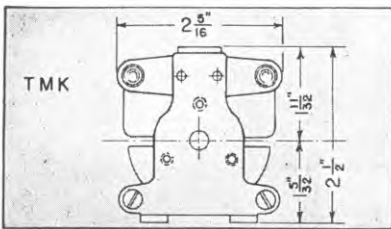
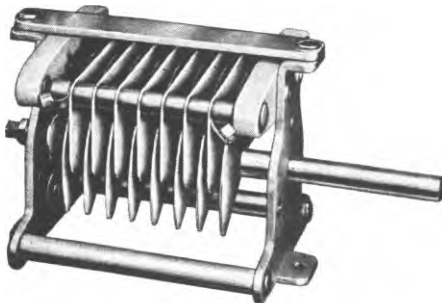
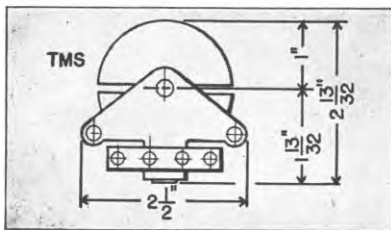
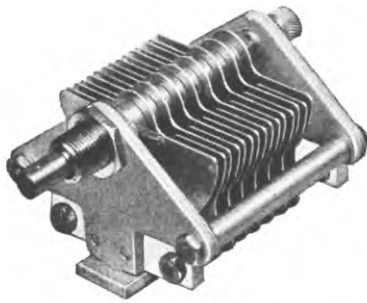
These larger desk type neutralizing condensers are for the higher powered tubes. Disks are aluminum, insulation steatite.



H-83



NATIONAL TRANSMITTING CONDENSERS



H-84

Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No. of Plates	Catalog Symbol	List
SINGLE STATOR MODELS							
100 Mmf.	9.5	3"	.026"	1000v.	10	TMS-100	\$2.50
150	11	3"	.026"	1000v.	14	TMS-150	2.75
250	13.5	3"	.026"	1000v.	23	TMS-250	3.00
300	15	3"	.026"	1000v.	27	TMS-300	3.60
35	8	3"	.065"	2000v.	8	TMSA-35	3.00
50	11	3"	.065"	2000v.	11	TMSA-50	3.25
DOUBLE STATOR MODELS							
50-50 Mmf.	6-6	3"	.026"	1000v.	5-5	TMS-50D	\$3.75
100-100	7-7	3"	.026"	1000v.	9-9	TMS-100D	4.50
50-50	10.5-10.5	3"	.065"	2000v.	11-11	TMSA-50D	4.00

Type TMS is a condenser designed for transmitter use in low power stages. It is compact, rigid, and dependable. Provision has been made for mounting either on the panel, on the chassis, or on two stand-off insulators. Insulation is Isolantite. Voltage ratings listed are conservative.

Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No. of Plates	Catalog Symbol	List
SINGLE STATOR MODELS							
35 Mmf.	7.5	2 7/16"	.047"	1500	7	TMK-35	\$3.25
50	8	2 3/8"	"	"	9	TMK-50	3.50
75	9	2 1/2"	"	"	13	TMK-75	3.75
100	10	3 1/8"	"	"	17	TMK-100	4.00
150	10.5	3 5/8"	"	"	25	TMK-150	4.50
200	11	4 1/4"	"	"	33	TMK-200	5.00
250	11.5	4 7/8"	"	"	41	TMK-250	5.50
DOUBLE STATOR MODELS							
35-35 Mmf.	7.5-7.5	3"	.047"	1500	7-7	TMK-35D	\$5.25
50-50	8-8	3 5/8"	"	"	9-9	TMK-50D	5.75
100-100	10-10	4 1/4"	"	"	17-17	TMK-100D	7.25
							.15

Extra for Swivel Mounting Hardware for AR 16 Coils

Type TMK is a new condenser for exciters and low power transmitters. Special provision has been made for mounting AR-16 coils in a swivel plug-in mount on either the top or rear of the condenser, (see page H-88) for panel or stand-off mounting. Isolantite insulation.

Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No. of Plates	Catalog Symbol	List
SINGLE STATOR MODELS							
50 Mmf.	9	3 3/4"	.085"	3500	15	TMH-50	\$3.50
75	11	3 3/4"	.085"	3500	19	TMH-75	4.00
100	12.5	5 1/8"	.085"	3500	25	TMH-100	4.75
150	18	6 1/8"	.085"	3500	37	TMH-150	6.00
35	11	5 1/8"	.180"	6500	17	TMH-35A	5.25
DOUBLE STATOR MODELS							
35-35 Mmf.	6-6	3 3/4"	.085"	3500	9-9	TMH-35D	\$5.50
50-50	8-8	5 1/8"	.085"	"	13-13	TMH-50D	6.00
75-75	11-11	6 1/2"	.085"	"	19-19	TMH-75D	7.25

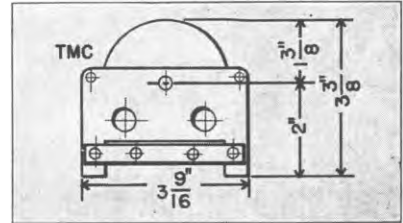
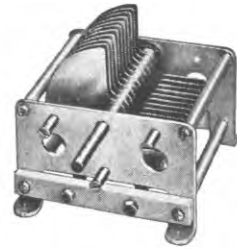
Type TMH features very compact construction, excellent power factor and aluminum plates .040" thick with polished edges. It mounts on the panel or on removable standoff insulators. Isolantite insulators have long leakage path. Standoffs included in listed price.



NATIONAL TRANSMITTING CONDENSERS

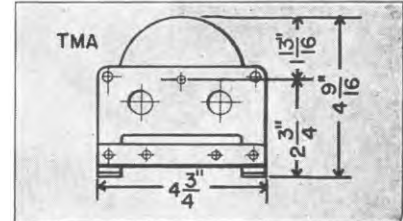
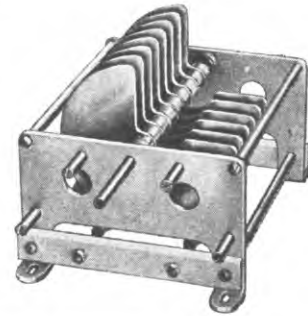
Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No. of Plates	Catalog Symbol	List
SINGLE STATOR MODELS							
50 Mmf.	10	3"	.077"	3000v.	7	TMC-50	\$4.00
100	13	3 1/8"	.077"	3000v.	13	TMC-100	4.50
150	17	4 5/8"	.077"	3000v.	21	TMC-150	5.25
250	23	6"	.077"	3000v.	32	TMC-250	6.00
300	25	6 3/4"	.077"	3000v.	39	TMC-300	6.50
DOUBLE STATOR MODELS							
50-50 Mmf.	9-9	4 5/8"	.077"	3000v.	7-7	TMC-50D	\$6.50
100-100	11-11	6 3/4"	.077"	3000v.	13-13	TMC-100D	7.50
200-200	18.5-18.5	9 1/4"	.077"	3000v.	25-25	TMC-200D	10.00

TMC is designed for use in the power stages of transmitters where peak voltages do not exceed 3000. The frame is extremely rigid and arranged for mounting on panel, chassis or stand-off insulators. The plates are aluminum with buffed edges. Insulation is Isolantite. The stator in the split stator models is supported at both ends.



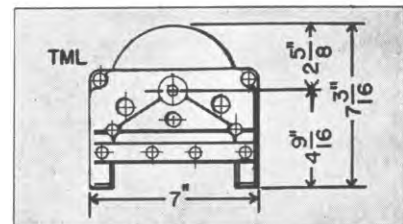
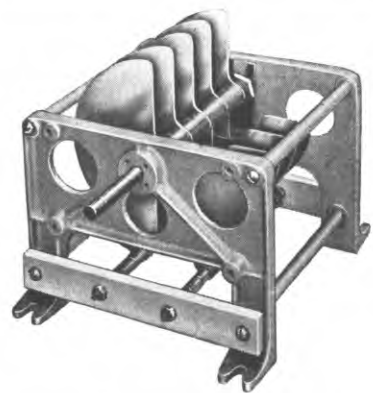
Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No. of Plates	Catalog Symbol	List
SINGLE STATOR MODELS							
300 Mmf.	19.5	4 9/8"	.077"	3000v.	23	TMA-300	\$12.00
50	15	4 9/8"	.171"	6000v.	8	TMA-50A	6.50
100	19.5	6 7/8"	.171"	6000v.	17	TMA-100A	10.00
150	22.5	6 7/8"	.171"	6000v.	23	TMA-150A	12.00
230	33	9 3/8"	.171"	6000v.	35	TMA-230A	16.00
100	30	9 1/4"	.265"	9000v.	23	TMA-100B	13.50
150	40.5	12 1/2"	.265"	9000v.	35	TMA-150B	17.00
50	21	7 1/8"	.359"	12000v.	13	TMA-50C	8.00
100	37.5	12 7/8"	.359"	12000v.	27	TMA-100C	14.50
DOUBLE STATOR MODELS							
200-200 Mmf.	15-15	6 7/8"	.077"	3000v.	16-16	TMA-200D	\$15.00
50-50	12.5-12.5	6 7/8"	.171"	6000v.	9-9	TMA-50DA	11.00
100-100	17-17	9 3/8"	.171"	6000v.	15-15	TMA-100DA	17.50
60-60	19.5-19.5	12 1/2"	.265"	9000v.	15-15	TMA-60DB	18.50
40-40	18-18	12 7/8"	.359"	12000v.	11-11	TMA-40DC	13.50

TMA is a larger model of the popular TMC. The frame is extremely rigid and arranged for mounting on panel, chassis or stand-off insulators. The plates are of heavy aluminum with rounded and buffed edges. Insulation is Isolantite, located outside of the concentrated field.

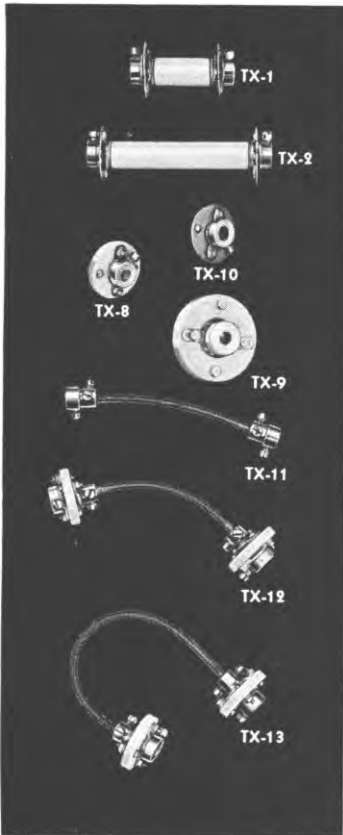


Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No. of Plates	Catalog Symbol	List
SINGLE STATOR MODELS							
75 Mmf.	25	18 1/16"	.719"	20,000v.	17	TML-75E	\$26.00
150	60	18 1/16"	.469"	15,000v.	27	TML-150D	26.50
100	45	13 5/8"	.469"	15,000v.	19	TML-100D	23.50
50	22	8 5/8"	.469"	15,000v.	9	TML-50D	16.50
245	54	18 1/16"	.344"	10,000v.	35	TML-245B+	28.50
150	45	13 5/8"	.344"	10,000v.	21	TML-150B+	26.00
100	32	10 1/8"	.344"	10,000v.	15	TML-100B+	25.00
75	23.5	8 5/8"	.344"	10,000v.	11	TML-75B+	18.00
500	55	18 1/16"	.219"	7,500v.	49	TML-500A+	35.00
350	45	13 5/8"	.219"	7,500v.	33	TML-350A+	28.00
250	35	10 1/8"	.219"	7,500v.	25	TML-250A+	26.00
DOUBLE STATOR MODELS							
30-30 Mmf.	12-12	18 1/16"	.719"	20,000v.	7-7	TML-30DE	\$26.50
60-60	26-26	18 1/16"	.469"	15,000v.	11-11	TML-60DD	28.50
100-100	27-27	18 1/16"	.344"	10,000v.	15-15	TML-100DB+	31.50
60-60	20-20	13 5/8"	.344"	10,000v.	9-9	TML-60DB+	27.50
200-200	30-30	18 1/16"	.219"	7,500v.	21-21	TML-200DA+	35.00
100-100	17-17	10 1/8"	.219"	7,500v.	11-11	TML-100DA+	28.50

TML condenser is a 1 KW job throughout. Isolantite insulators, specially treated against moisture absorption, prevent flashovers. A large self-cleaning rotor contact provides high current capacity. Thick capacitor plates, with accurately rounded and polished edges, provide high voltage ratings. Sturdy cast aluminum end frames and dural tie bars permit an unusually rigid structure. Precision end bearings insure smooth turning and permanent alignment of the rotor. End frames are arranged for panel, chassis or stand-off mountings.



NATIONAL SHAFT COUPLINGS



TX-1, Leakage path 1" **List \$1.00**

TX-2, Leakage path 2 1/2" **List 1.10**

Flexible couplings with glazed Isolantite insulation which fit 1/4" shafts.

TX-8 **List \$.75**

A non-flexible rigid coupling with Isolantite insulation. 1" diam. Fits 1/4" shaft.

TX-9 **List \$1.10**

This small insulated flexible coupling provides high electrical efficiency when used to isolate circuits. Insulation is Steatite. 1 5/8" diam. Fits 1/4" shaft.

TX-10 **List \$.55**

A very compact insulated coupling free from backlash. Insulation is canvas Bakelite. 1 1/16" diam. Fits 1/4" shaft.

TX-11 **List \$.60**

The flexible shaft of this coupling connects shafts at angles up to 90 degrees, and eliminates misalignment problems. Fits 1/4" shafts. Length 4 1/4".

TX-12, Length 4 5/8" **List \$1.25**

TX-13, Length 7 1/8" **List 1.50**

These couplings use flexible shafting like the TX-11 above, but are also provided with Isolantite insulators at each end.

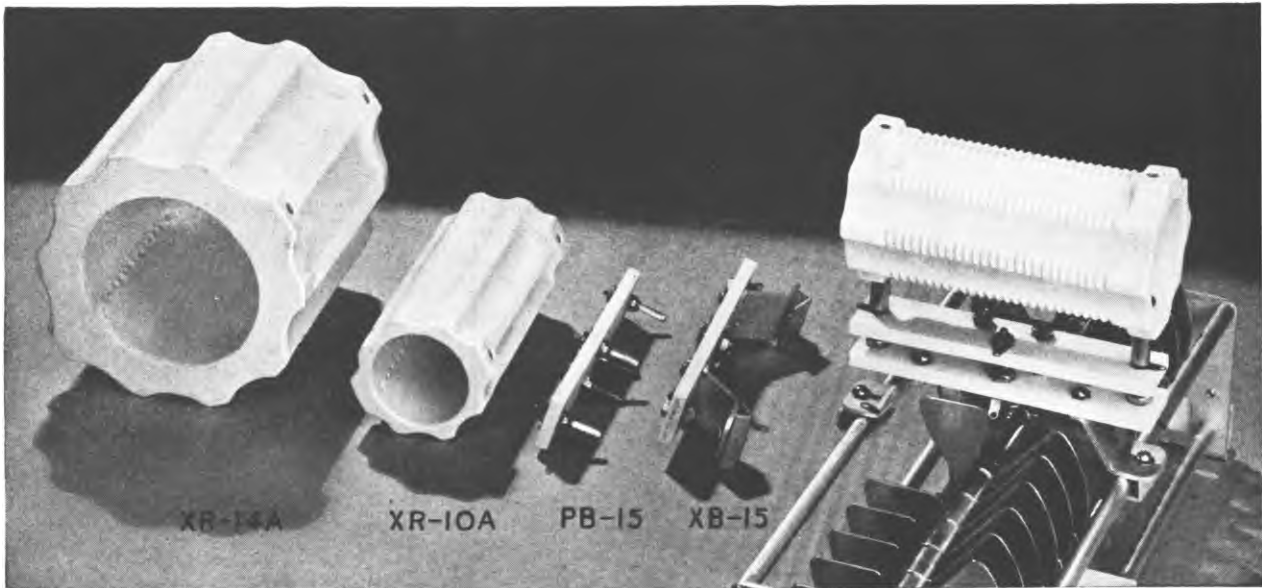
COIL DOPE — Liquid Polystyrene Cement **CD-1**, 1/4 pint can **List \$1.50**

H.F. COIL FORMS



For ultra high frequency work, where very low losses are essential, these small Victron coil forms will be found extremely useful. They can be readily drilled and grooved with ordinary tool and firmly cemented with National Coil Dope without impairing electrical characteristics.

Symbol	Outside Diameter	Length	List Price
PRC-1	3/8"	3/8"	\$.15
PRC-2	3/8"	1/2"	.15
PRC-3	3/8"	3/4"	.15
PRD-1	1/2"	1/2"	.15
PRD-2	1/2"	1"	.15
PRE-1	3/16"	3/4"	.20
PRE-2	3/16"	1"	.20
PRE-3	3/16"	2"	.30
PRF-1	3/4"	3/4"	.30
PRF-2	3/4"	1 1/4"	.40



TRANSMITTER COIL FORMS

The Transmitter Coil Forms and Mounting are designed as a group, and mount conveniently on the bars of a TMA condenser. The larger coil form, Type XR-14A, has a winding diameter of 5" and a winding length of 3 3/4" and is intended for the 80 meter band. The smaller form, Type XR-10A, has a winding length of 3 3/4" and a winding diameter of 2 1/2". It is intended for the 20 and 40 meter bands.

Either coil form fits the PB-15 plug. For higher frequencies, the plug may be used with a self-supporting coil of copper tubing. The XB-15 Socket may be mounted on breadboards or chassis, as well as on the TMA Condenser.

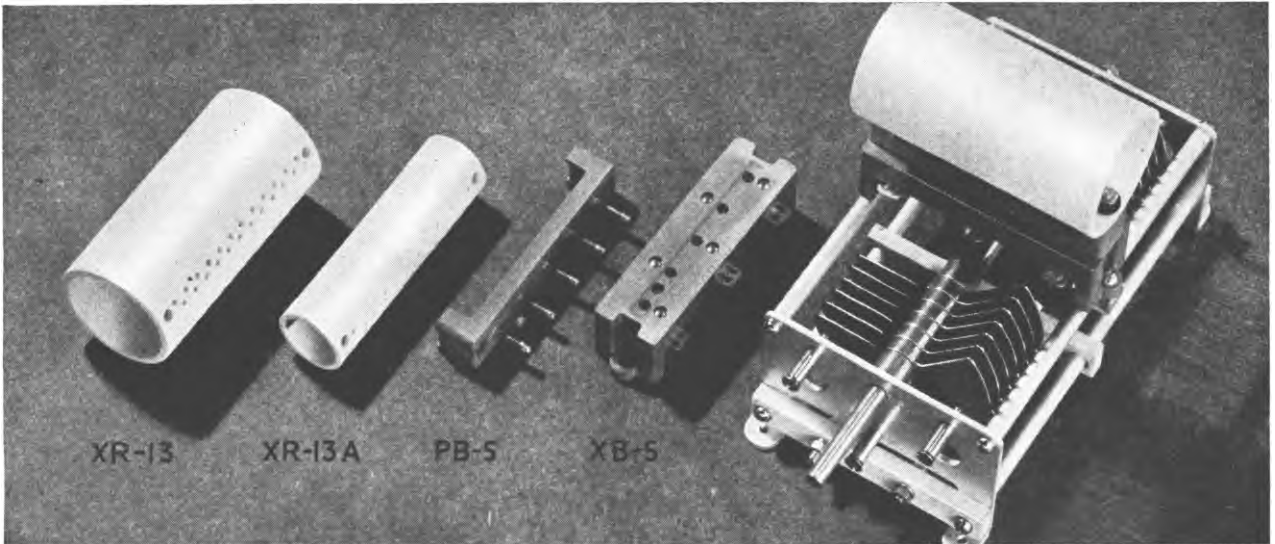
SINGLE UNITS

- XR-10A, Coil Form only **List \$1.50**
- XR-14A, Coil Form only **List 3.50**
- PB-15, Plug only **List 1.35**
- XB-15, Socket only **List 1.75**

ASSEMBLIES

- UR-10A, Assembly (including small Coil Form, Plug and Socket) **List \$4.60**
- UR-14A, Assembly (including large Coil Form, Plug and Socket) **List \$6.25**





BUFFER COIL FORMS

National Buffer Coil Forms are designed to mount directly on the tie bars of a TMC condenser using the PB-5 Plug and XB-5 Socket. Plug and Socket are of molded R-39.

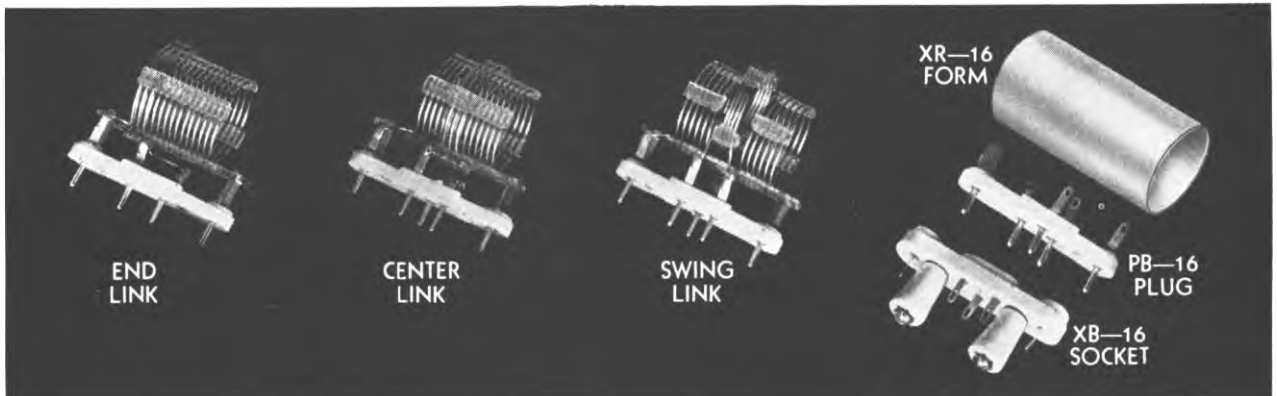
The two coil forms are of Isolantite, left unglazed to provide a tooth for coil dope. The larger form, Type XR-13, is 1 3/4" in diameter and has a winding length of 2 3/4". The smaller form, Type XR-13A, is 1" in diameter and provides a winding length of 2 3/4". Both forms have holes for mounting and for leads.

SINGLE UNITS

XR-13, Coil Form only	List \$1.10
XR-13A, Coil Form only	List .60
PB-5, Plug only	List .75
XB-5, Socket only	List .75

ASSEMBLIES

UR-13A, Assembly (including small Plug and Socket)	Coil Form, List \$2.00
UR-13, Assembly (including large Plug and Socket)	Coil Form, List \$2.50



EXCITER COILS AND FORMS — TYPE AR-16 (Air Spaced)

These air-spaced coils are suitable for use in stages where the plate input does not exceed 50 watts and are available in the sizes tabulated below. Capacities listed will resonate the coils at the low frequency end of the band and include all stray circuit capacities. All have separate link coupling coils and all fit the PB-16 Plug and XB-16 Socket.

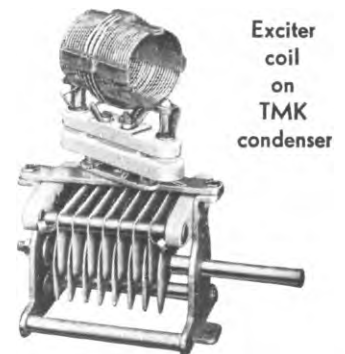
The XR-16 Coil Form also fits the PB-16 Plug and XB-16 Socket. It has a winding diameter of 1 1/4" and a winding length of 1 3/4".

XR-16, Coil Form only	List \$.60
PB-16, Plug-in Base only	List .40
XB-16, Plug-in Socket only	List .50
AR-16 Coils — Any type (see table)	Each, List \$1.50

Price includes P. B.-16 plug as illustrated.

Order by Catalog Symbol Shown in This Table

BAND	END LINK	CAP MMF	CENTER LINK	CAP MMF	SWINGING LINK	CAP MMF
5 meter	AR16-5E	20	AR16-5C	20	—	—
10 meter	AR16-10E	20	AR16-10C	20	AR16-10S	25
20 meter	AR16-20E	26	AR16-20C	26	AR16-20S	40
40 meter	AR16-40E	33	AR16-40C	33	AR16-40S	55
80 meter	AR16-80E	37	AR16-80C	37	AR16-80S	60
160 meter	AR16-160E	65	AR16-160C	65	—	—

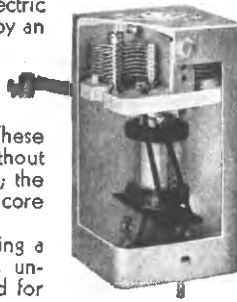


Exciter coil on TMK condenser



NATIONAL I.F. TRANSFORMERS

This new I.F. Transformer has air dielectric condensers (isolated from each other by an aluminum shield) and Litz wound coils mounted on a ceramic base which is treated against moisture absorption. The aluminum shield can, housing the assembly, measures $4\frac{1}{8}'' \times 2\frac{3}{8}'' \times 2''$. These transformers are available with or without Iron Cores in the 450-550 KC model; the 175 KC model is air core only. For iron core add to List \$5.50.



An additional model, Type IFD, having a tuned primary and a closely-coupled, un-tuned, push-pull secondary is intended for operation with diode rectifiers. It is particularly suitable for use in noise silencing circuits. It is available only with an air core, and for 450-550 KC use.

IFC, Transformer (air core)
IFCO, Oscillator (air core only)
IFD, Diode Transformer (air core only)

List \$5.00
List \$5.00
List \$3.50



NATIONAL FIXED TUNED EXCITER TANK

Similar in general construction to the I.F. transformer described above, this unit has two 25 mmf, 2000 volt air condensers and an unwound XR-2 coil form.

FXT, without plug-in base List \$4.50
FXTB, with base (either 5- or 6-prong) List \$4.90

PLUG-IN BASE AND SHIELD

The low-loss R-39 base is ideal for mounting condensers and coils when it is desirable to have them shielded and easily removable. Shield can is $2'' \times 2\frac{3}{8}'' \times 4\frac{1}{8}''$. Two models are available; 5- or 6-prong.

PB-10, (Base and Shield) List \$7.75
PB-10A, (Base only) List \$4.40



SAFETY METER PANEL

This new panel makes it safe to connect meters into high-voltage leads. The meters are mounted behind a glass window on a sub-panel. It is available either blank, or punched with 2, 3, or 4 holes for $2''$ diameter meters. Holes for bolting the meters in place are not provided, as their location varies with different makes of meters. Finish is black wrinkle.

MPF Meter Panel with glass window List \$2.50

MPS Sub-panel for meters (specify whether 2, 3, or 4 holes, or blank panel is desired) List \$2.00

NATIONAL JACK SHIELD

The new National Jack Shield accommodates small standard jacks. It is primarily designed for mounting behind the panel, where it is held in place by the bushing of the jack, but may also be used on the ends of extension cords, etc.



JS-1 List \$3.35

NATIONAL RECEIVER COIL FORMS

These well known R-39 forms are machineable, permitting them to be grooved and drilled to suit individual requirements. They are available with four, five, or six prongs. A special socket is required for the six-prong forms. Coil form diameter is $1\frac{1}{2}''$, length $2\frac{1}{4}''$



XR-4, XR-5, or XR-6 List \$7.75
XC6C, Special 6-prong socket List \$7.75

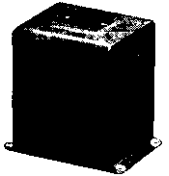


Also R-39, these small coil forms are designed with excellent form factor, contributing to high efficiency in H.F. circuits. Diameter, $1''$; Length, $1\frac{1}{2}''$; Wall thickness, $1/16''$. Type XR-1 has four prongs, others are plain.

XR-1, four prongs List \$5.50
XR-2, without prongs List \$3.35
XR-3, $9/16''$ dia. x $3/4''$ long List \$3.30

SCREEN GRID DETECTOR COUPLER

This impedance coupling unit, when employed to couple the output of a screen grid detector to an audio amplifier tube, will give from two to three times as much amplification as resistance coupling. Plate choke, 700 henries. Coupling condenser, .01 mfd. Grid leak, 250,000 ohms.



S-101 List \$6.00

NATIONAL L. F. OSCILLATOR COIL



Two separate inductances, closely coupled, in an aluminum shield. It is used in the SRR and other super-regenerative receivers for the interruption-frequency oscillator. Sec. Inductance 6.25 m.h. Tunes to 100 KC with .00041 Mfd.

OSR List \$1.50

CODE PRACTICE OSCILLATOR

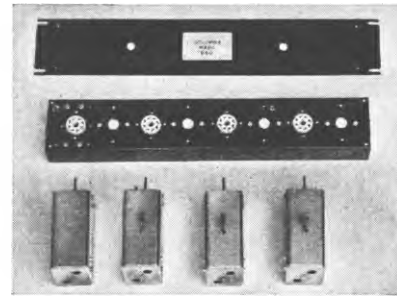
This small audio oscillator is suitable for either code practice, or as an audio signal source for ICW on the Ultra High Frequency Bands.

A type 30 tube is used, and four flashlight cells in the case provide filament and plate current.

CPO, without batteries or tube List \$6.00



NATIONAL HIGH FIDELITY TRF UNITS



The new National Tuners are based on a high performance TRF circuit reduced to its simplest terms. Similar in construction to an IF Amplifier, each chassis provides a three-stage RF Amplifier tuned to one station only. A group of four or more separate chassis are usually used in each

installation to receive a like number of stations.

Each RF Transformer has an individual coupling adjustment and is tuned both primary and secondary (8 tuned circuits). The coupling is adjustable to include 10 KC with less than 1 db variation in the audio range. Sensitivity is adjustable from 5 microvolts to one volt. For best efficiency, three models have been made available covering ranges of 540-875, 740-1230, and 1100-1700 KC. The chassis fits a standard $3\frac{1}{2}''$ relay rack panel.

DLCA, Chassis as illustrated with sockets and terminals riveted in place List \$4.60

DLPS, Steel $1/8''$ panel List \$1.50

DLPA, Aluminum $3/16''$ panel List \$5.00

DLT, RF Transformer, set of four required List, each, \$6.50

(Specify approximate operating frequency)



NATIONAL CABINETS

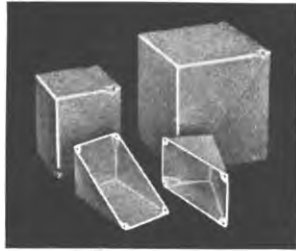
National Receiver Cabinets are for use in constructing special equipment. List Prices include sub-bases and bottom covers. They are available in the sizes shown below.



Type	Width	Height	Depth	List
C-HWR	13½"	7"	7¼"	\$5.00
C-FB7	11½"	8"	12"	7.00
C-SW3	9¾"	7"	9"	5.50
C-NC100	17¼"	8¾"	11¼"	8.50
C-HRO	16¾"	8¾"	10"	8.50
C-One-Ten	11"	7"	7¼"	4.50
C-PSK	6"	8"	12"	6.00
C-SRR	7½"	7"	7½"	3.50

CAST ALUMINUM SHIELDS

These rugged cast aluminum shields are useful for a variety of purposes. They may be used as cases for small wavemeters, monitors and the like and as stage shields in high-gain equipment. The two smaller sizes mount conveniently on a 5¼" relay rack panel or on a chassis. The largest size clears a 7" relay rack panel.



CS-1, 5" x 3" x 3" (outside)	List \$5.00
CS-2, 5" x 4" x 4" (outside)	List 6.75
CS-3, 6¾" x 6" x 6" (outside)	List 13.50

RF CHOKES



R-100 List \$5.00
Isolantite mounting, continuous universal winding in four sections. For pigtail connections or standard resistor mountings. Inductance 2½ m.h.; distributed capacity, 1 mmf.; D.C. resistance 50 ohms; current rating, 125 m.a. For low powered transmitters and high frequency receivers.

R-100U List \$.60
The new R-100U Choke is similar to the R-100 electrically but is designed to mount directly on the chassis by means of a stand-off insulator screwed on one end. Inductance 2½ m.h.; distributed capacity, 1 mmf.; D.C. resistance 50 ohms; current rating 125 m.a.

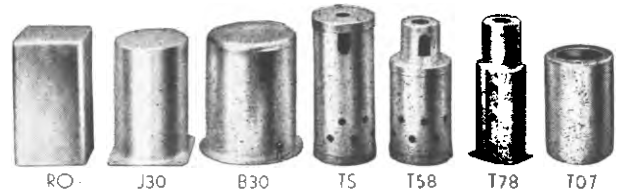


R-300 List \$.50
The R-300 Choke is similar in size to the well known R-100, but has higher current capacity. Inductance 1 m.h.; distributed capacity, 1 mmf.; D.C. resistance 10 ohms; current rating 300 m.a.

R-300U List \$.60
The new R-300U Choke is similar to the R-300 electrically but is designed to mount directly on the chassis by means of a stand-off insulator screwed on one end. Inductance 1 m.h.; distributed capacity, 1 mmf.; D.C. resistance 10 ohms; current rating 300 m.a.



NATIONAL TUBE AND COIL SHIELDS



Type	List
RO, coil shield, 2" x 2¾" x 4⅛" high	\$.35
J30, coil shield, 2½" dia. x 3¾" high	.35
B30, coil shield, 3" dia. x 3¾" high	.35
B30, coil shield, with mounting base	.50
TS, tube shield, with cap and base	.40
T58, tube shield, with cap and base, (for 77, 78 tubes, etc.)	.40
T78, tube shield, with cap and base, (for 77, 78 tubes, etc.)	.40
T14, tube shield 2⅛" high (for 814, RK-20, etc.)	.40
T07, tube shield, 3" high, (for 807, RK-23, etc.)	.40

NATIONAL CHART FRAMES

National Chart Frames are blanked from one piece of solid nickel silver. Sides of all charts are ¼" wide. Prices include a celluloid sheet to protect the chart. Dimensions given below.

Size A, 2¼" x 3¼"	List \$5.50
Size B, 3" x 4"	List .60
Size C, 3¾" x 4"	List .70



R-175 List \$2.75
The R-175 transmitting r.f. choke is suitable for parallel-feed as well as series-feed circuits in transmitters of up to 3000 volts modulated plate supply. Without plate modulation of the transmitter, they are suitable for 4000-volt circuits. In contrast to conventional r.f. chokes, the inductive reactance of the R-175 is high throughout the 28- and 14-mc. bands as well as the 1.7-, 3.5-, and 7-mc. bands. Inductance 225 uh., distributed capacity 0.6 mmf., DC resistance 6 ohms, DC current rating 800 ma., voltage breakdown to metal base 12,500 volts.

R-152 List \$2.25
The R-152 Choke has honeycomb coils wound on Isolantite cores, and is intended for the 80 and 160 meter bands. Inductance 4 m.h.; D.C. resistance 10 ohms; current capacity 600 m.a.



R-154 List \$2.25
The Type R-154 Choke is similar to the Type R-152, but is designed for the 20, 40 and 80 meter bands. Inductance 1 m.h.; D.C. resistance 6 ohms; current capacity 600 m.a.



R-154U List \$1.75
The R-154U Choke has the same coil and ratings as the R-154, immediately above, but does not have the small insulating pillar and the third mounting foot.

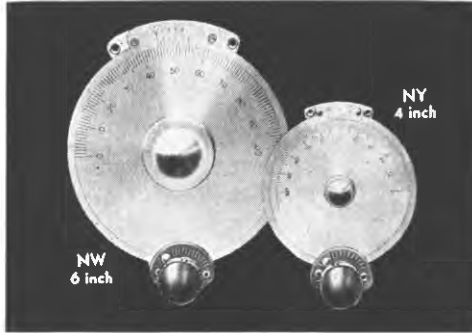
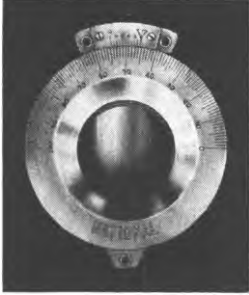


NATIONAL DIALS

PRECISION NW DIAL

The six-inch NW Dial has an engine divided scale and vernier of solid nickel silver. The vernier is flush with the scale. The variable ratio drive is unusually powerful at all settings. 2, 3, 4 or 5 scale. Standard Dial fits $\frac{3}{8}$ " shaft. $\frac{1}{4}$ " shaft on request.

NW Dial List \$15.00



PRECISION NY DIAL

The four-inch NY Dial is similar to the NW Dial except for size. Scales are engine divided on solid nickel silver. A flush vernier and a variable ratio drive are provided. 2, 3, 4 or 5 scale. Fits $\frac{1}{4}$ " shaft.

NY Dial List \$8.00

The four-inch N Dial has an engine divided scale and vernier of solid nickel silver. The vernier is flush with the scale. The planetary drive has a ratio of 5 to 1, and is contained within the body of the dial. 2, 3, 4 or 5 scale. Fits $\frac{1}{4}$ " shaft.

N Dial List \$6.75

The original black bakelite "Velvet Vernier" Dial, Type A, is still an unchallenged favorite for general purpose use. The planetary drive has a ratio of 5 to 1. In 4 inch diameter with 2, 4 or 5 scale, and in $3\frac{3}{8}$ inch diameter with 2 scale. Fits $\frac{1}{4}$ " shaft.

A Dial List \$3.00



"Velvet Vernier" Dial, Type B, has a compact variable ratio 6 to 1 minimum, 20 to 1 maximum drive that is smooth and trouble free. An illuminator is available. The case is black bakelite. 1 or 5 scale. 4" diam. Fits $\frac{1}{4}$ " shaft.

B Dial List \$2.75
Illuminator, extra List \$1.50

The BM Dial is a smaller version of the B Dial (described in the opposite column) for use where space is limited. The drive ratio is fixed. Although small in size, the BM Dial has the same smooth action as the larger units. 1 or 5 scale. 3" diam. Fits $\frac{1}{4}$ " shaft.

BM Dial List \$2.50



INEXPENSIVE DIALS



TYPE R
List \$:75

Etched nickel-silver dial, 1 $\frac{1}{2}$ " Dia. Not insulated from shaft.



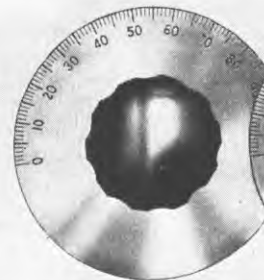
TYPE O
List \$1.50

Etched nickel-silver dial, 3 $\frac{1}{2}$ " Dia. Insulated from shaft.



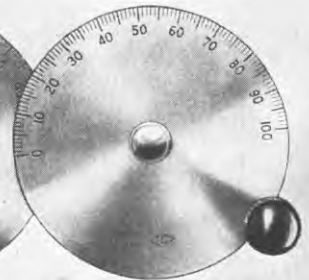
TYPE K
List \$1.50

Etched nickel-silver dial, 3 $\frac{1}{2}$ " Dia. Vernier drive.



TYPE L
List \$2.50

Etched nickel-silver dial, 5" Dia. Insulated from shaft.



TYPE M
List \$2.50

Etched nickel-silver dial, 5" Dia. Vernier drive.

All above Dials for $\frac{1}{4}$ " shafts

KNOBS

HRK, List \$.85

Black bakelite knob $2\frac{3}{8}$ " diam. Fits $\frac{1}{4}$ " shaft.

HRP-P, List \$.35

Black bakelite knob $1\frac{1}{4}$ inch long and $\frac{1}{2}$ inch wide and fits $\frac{1}{4}$ inch shaft. Equipped with pointer.

HRP, List \$.25

The Type HRP knob has no pointer, but is otherwise the same as the knob above.



DIAL SCALES

Scale	Divisions	Rotation	Direction of Condenser Rotation for increase of dial reading
1	0-100-0	180°	Either
2	0-100	180°	Counter Clockwise
3	100-0	180°	Clockwise
4	150-0	270°	Clockwise
5	200-0	360°	Clockwise
6	0-150	270°	Counter Clockwise

ROTOR SHAFT LOCK

RSL, List \$.85

Designed to fit TMA, TMC or similar condensers, this clamp provides a convenient and secure rotor lock. Fits $\frac{1}{4}$ " shaft.



ACCESSORIES

ODL, List \$.50

A locking device which clamps the rim of O, K, L and M Dials. Brass, nickel plated.

ODD, List \$.60

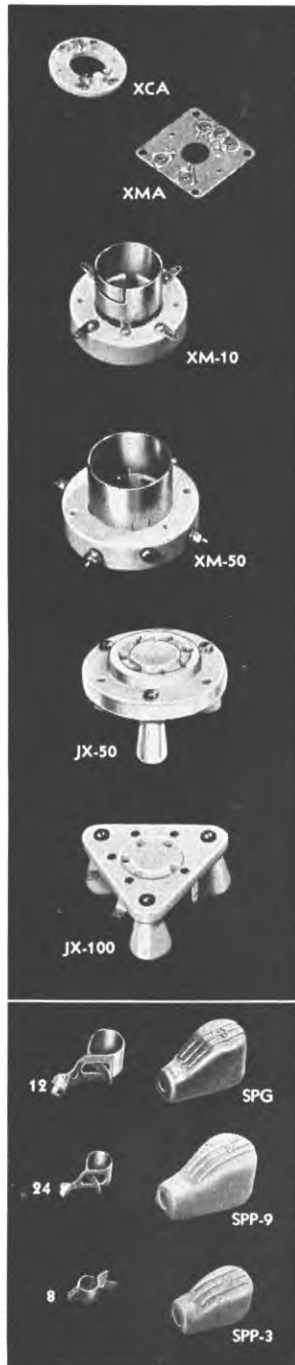
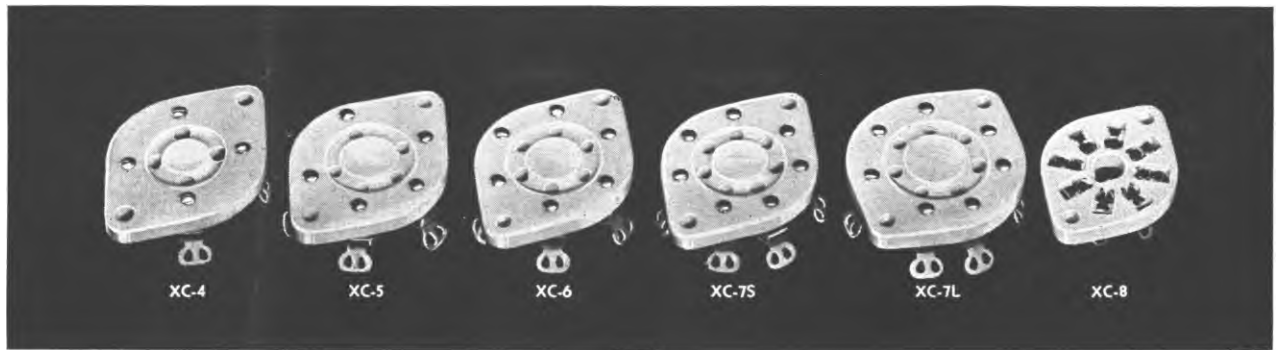
This vernier drive unit may be used with O, K, L, M or other plain dials.

SB, List \$.25

A nickel plated brass bushing $\frac{3}{8}$ " dia., hole fits $\frac{1}{4}$ " shaft.



NATIONAL LOW-LOSS SOCKETS AND INSULATORS



XCA List \$1.50

A low-loss socket for acorn triodes.

XMA List \$2.00

For pentode acorn tubes, this socket has built-in by-pass condensers. The base is a copper plate.

XM-10 List \$1.25

A heavy duty metal shell socket for tubes having the UX base.

XM-50 List \$1.75

A heavy duty metal shell socket for tubes having the Jumbo 4-pin base ("fifty watt-ers").

JX-50 List \$1.20

Without Standoff Insulators

JX-50S List \$1.50

With Standoff Insulators

A low-loss wafer socket for the 813 and other tubes having the Giant 7-pin Base.

JX-100 List \$3.00

Without Standoff Insulators

JX-100S List \$3.60

With Standoff Insulators

A low-loss wafer socket for the 803, RK-28 and other tubes using the Giant 5-pin Base.

SAFETY GRID & PLATE CAPS

SPG List \$.35

3/16" Cap, L. L. R-39 insulation

SPP-9 List \$.35

9/16" Cap L. L. ceramic insulation. These offer protection against accidental contact with High Voltage lobe Caps

SPP-3 List \$.30

3/8" Cap L. L. ceramic insulation

GRID & PLATE GRIPS

12, for 9/16" Caps List \$1.10

24, for 3/8" Caps List .05

8, for 1/4" Cap List .05

12 & 24 suitable for glass tubes
8 is for metal tubes

XC Series Sockets

Any Type List \$.60

National wafer sockets have exceptionally good contacts with high current capacity together with low loss Isolantite insulation. All types have a locating groove to make tube insertion easy, with the exception of the Octal socket which has a central locating hole.

GS-1, 1/2" x 1 3/8" List \$.25

GS-2, 1/2" x 2 7/8" List .35

GS-3, 3/4" x 2 7/8" List .90

GS-4, 3/4" x 4 7/8" List 1.10

GS-4A, 3/4" x 6" List 1.60

Cylindrical low-loss Steatite stand-off insulators with nickel plated caps and bases.

GSJ, (not illustrated) List \$1.10

A special nickel plated jack top threaded to fit the 3/4" diam. Insulators GS-3, GS-4 & GS-4A.

GS-5, 1 1/4" List, each \$.25

GS-6, 2" List, each .45

GS-7, 3" List, each .75

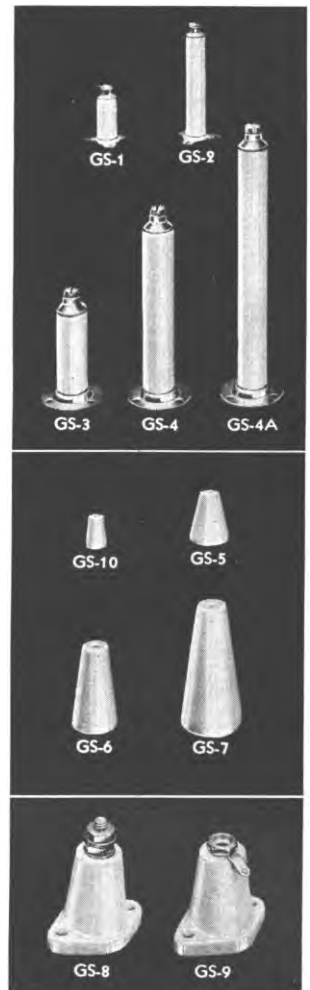
GS-10, 3/4", package of 10 List \$.75

These cone type standoff insulators are of low-loss ceramic. They have a tapped hole at each end for mounting.

GS-8, Plain List \$.35

GS-9, with Jack List .50

These low-loss ceramic stand-off insulators are also useful as lead-through bushings.



NATIONAL LOW-LOSS SOCKETS AND INSULATORS



CIR Series Sockets

Any Type **List \$.40**

Type CIR Sockets feature low-loss isolantite or steatite insulation, a contact that grips the tube prong for its entire length, and a metal ring for six position mounting. The sockets are supplied with two metal standoffs.

AA-3 **List \$.30**

A low-loss steatite spreader for 6 inch line spacing. (600 ohms impedance with No. 12 wire)

AA-5 **List \$.30**

A low-loss steatite aircraft-type strain insulator.

AA-6 **List \$.35**

A general purpose strain insulator of low-loss steatite.

XS-6 **List, each \$.15**

A low-loss isolantite bushing for 1/2" holes.

TPB **List, per dozen \$.75**

A threaded Polystyrene bushing with removable .093 conductor moulded in, 3/8" diam., 32 thread.

XS-7, (3/8" Hole) **List \$.50**

XS-8, (1/2" Hole) **List \$.65**

Steatite bushings. Prices include male and female bushings with metal fittings.

XS-1, (1" Hole) **List \$.75**

XS-2, (1 1/2" Hole) **List \$.90**

Prices listed are per pair, including metal fittings. Insulation — steatite.

XS-3, (2 3/4" Hole) **List \$ 5.00**

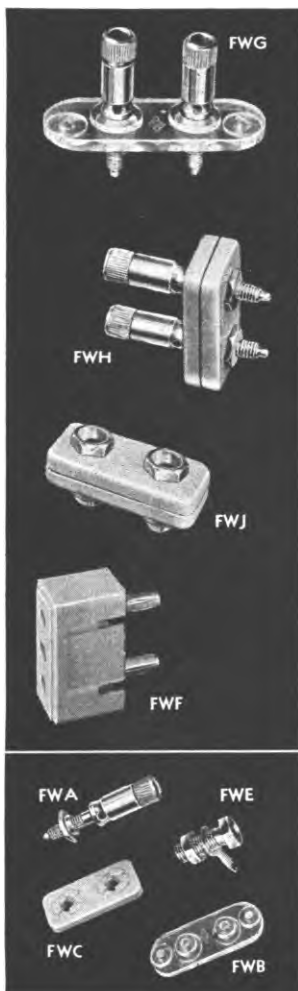
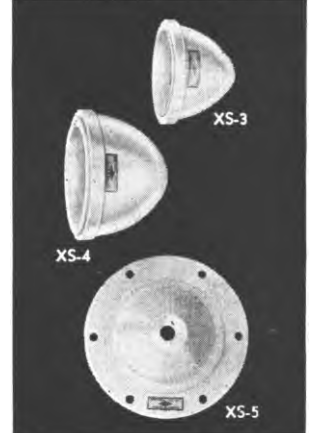
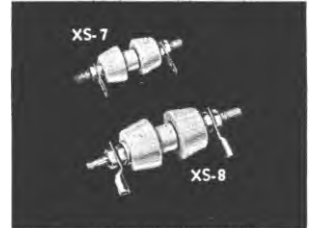
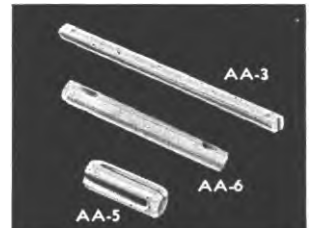
XS-4, (3 3/4" Hole) **List \$ 6.50**

Prices are per pair, including metal fittings. These low-loss steatite bowls are ideal for lead-in purposes at high voltages.

XS-5, Without Fittings
List, each, \$ 7.50

XS-5, With Fittings
List, per pair, \$ 15.50

These big low-loss bowls have an extremely long leakage path and a 5 1/4" flange for bolting in place. Insulation — steatite.



FWG **List \$.60**

A Victron terminal strip for high frequency use. The binding posts take banana plugs at the top, and grip wires through hole at the bottom, simultaneously, if desired.

FWH **List \$.85**

The insulators of this terminal assembly are molded R-39 and have serrated bosses that allow the thinnest panel to be gripped firmly, and yet have ample shoulders. Binding posts same as FWG above.

FWJ **List \$.65**

This assembly uses the same insulators as the FWH above, but has jacks. When used with the FWF plug (below), there is no exposed metal when the plug is in place.

FWF **List \$ 1.00**

This molded R-39 plug has two banana plugs on 3/4" centers and fits FWH or FWJ above. Leads may be brought out through the top or side.

FWA, Post **List, each \$.25**
Brass Nickel Plated

FWE, Jack **List, each \$.15**
Brass Nickel Plated

FWC, Insulator
R-39 Insulation **List, per pair \$.35**

FWB, Insulator **List, each \$.10**
Polystyrene insulation



NATIONAL NTE EXCITER — SPEECH AMPLIFIER

The new National Combination Exciter and Speech Amplifier is the ideal answer to transmitter control at the operating position. It includes a versatile multi-band exciter unit with a choice of frequencies in each band, and a high-gain speech amplifier. The exciter can be used with either a conventional single crystal, a National "Vari-gap" variable frequency holder, or a National four-crystal multiple holder, although the multiple holder is usually supplied. The crystal oscillator is followed by three frequency-multiplier stages using 6L6's. The crystals can be controlled from the front panel, and the same is true of the frequency-multiplier stages which are selected by a convenient interlocking push switch of special low-loss design. The four stage amplifier delivers 10 watts output from PP 2A3's with an input of .005 volts. Although the power supply is entirely self-contained, the hum level is exceedingly low. A meter and multi switch are provided for circuit adjustments.

RACK MODELS

Relay Rack Models can be supplied at an increased price of \$10.00 list for black wrinkle-finished steel panels $\frac{1}{8}$ " thick, or at an increase of \$15.00 list for black leatherette or gray enamel panels of aluminum $\frac{3}{16}$ " thick. When ordering Rack Model units add letters RS for steel or RA for aluminum to table model symbols and specify finish desired.

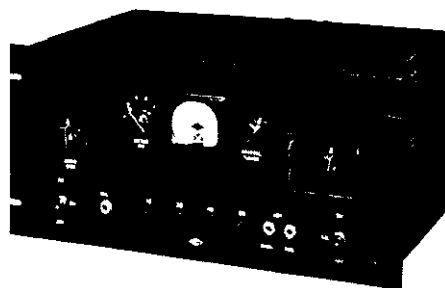


TABLE MODELS

NTE Exciters are available in three models as follows: Black wrinkle-finish

NTE-A, List \$215.00

Exciter-Speech Amplifier, for 5, 10, 20 and 80 meters, table model

NTE-B, List \$215.00

Same as NTE-A, but for 10, 20, 40 and 80 meters

NTE-C, List \$155.00

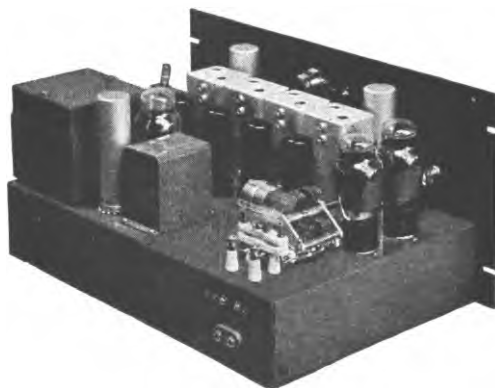
Same as NTE-B, but without speech amplifier
Shipping Weight Approx. 70 Lbs.

NTX-30 TRANSMITTER

The NTX-30 is an exceedingly compact and convenient transmitter for CW or Phone, having an output of 30 watts on 10, 20, 40 and 80 meters. It employs the same exciter system used so successfully in the NTE, and like the NTE features a special interlocking push switch in the exciter circuits. AR16-S swinging link type coils described on Page 9 are used in the output stage. Four 6L6's are used as crystal oscillator and doublers, and two 6L6G's are used in the final.

The unit is a self-contained transmitter for CW operation. For phone an external modulator must be used. The NSM described on page 15 is ideal for this purpose. Terminals are provided at the rear of the NTX-30 for connecting the modulator.

Structurally, the NTX-30 consists of an NTE Exciter with a final stage substituted for the speech amplifier, and it is very similar in appearance to the NTE illustrated above. All the features of the NTE are retained, including panel control of crystal frequency, interlocking push switch, meter for circuit adjustments, etc. The NTX-30 thus has the advantage of a proven design in its circuits, and is ideally suited for use as an exciter-buffer combination whenever higher power is desired.



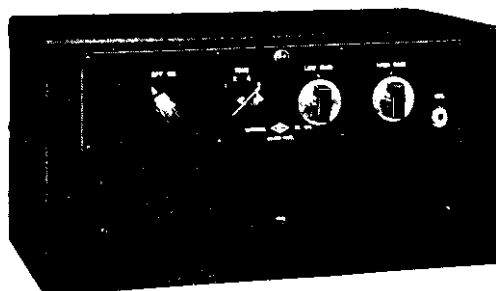
NTX-30, Table Model Transmitter, complete with all coils, tubes, and crystal holder, but less crystal for operation on 10, 20, 40, and 80 meter bands. List \$195.00

NTX-30, RS, Rack Model, same as above but mounted on $\frac{1}{8}$ " steel. Panel, black wrinkle finish. List \$205.00

NTX-30, RA, Rack Model, same as above but mounted on $\frac{3}{16}$ " aluminum. Panel, black leatherette or gray finish. List \$210.00

Shipping Weight Approx. 70 Lbs.

Special combination NTX-30 Transmitter and NSM Speech Amplifier mounted in steel cabinet, black wrinkle finish. List \$345.00



NSA SPEECH AMPLIFIER

The National Speech Amplifier has two input channels with an electronic mixer. One input circuit provides an over all gain of 125 db, and is suitable for crystal microphones, etc. The other input circuit has one less amplifier stage and is intended for high level sources such as phonograph pickups, etc. The frequency characteristic is flat within less than 1 db from 25 to 10,000 cycles. A separate rectifier supplies bias voltage for the PP 2A3's, which deliver 15 watts output. A tone control is provided.

NSA Speech Amplifier, table model, in wrinkle-finish steel cabinet, including tubes. List \$115.00

NSA-RS Relay rack mounting, with black wrinkle-finish steel panel $\frac{1}{8}$ inch thick. List 125.00

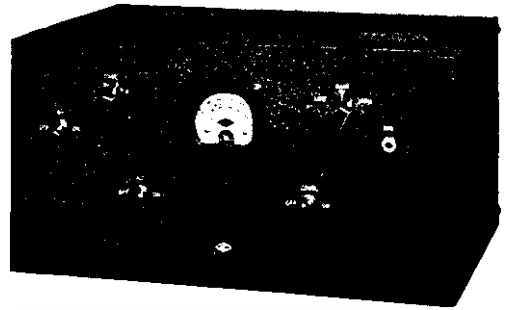
NSA-RA Relay rack mounting, with black leatherette or gray enamel aluminum panel $\frac{3}{16}$ inch thick. List 130.00

Approx. Shipping Weight 50 Lbs.

NATIONAL NSM MODULATOR

The new Type NSM Modulator Unit is intended particularly for use with the NTX-30 Transmitter, but its many advanced features make it desirable for any modulating job within its 30 watt rating. Typical among its features are Automatic Volume Compression, permitting high modulation levels without danger of overmodulation, its DB meter indicating the amount of compression, its four-position tone control which cuts either highs or lows, or both, or leaves intact the normal range of 50 to 10,000 cycles, and its two separate input circuits.

Four stages of resistance-coupled amplification with 6C6 input, 6D6 second stage, 6FBG phase inverter, and push pull 6L6G output — Power gain approximately 135 db, output 30 watts — 6X5 high voltage rectifier used in Automatic Volume Compression circuit — VR-150 Voltage Regulator. Two separate input circuits, one of which omits the first 6C6 amplifier tube — Frequency response flat from 50 to 10,000 cycles.



NSM, Complete with tubes and mounted in the table model steel cabinet. Finished in black wrinkle. As illustrated above. **List \$130.00**
NSM-RS, Same as above but mounted on 1/8" relay rack panel finished in black wrinkle. **List \$140.00**
NSM-RA, Ditto but with 3/16" aluminum panel. Finished in black leatherette on gray enamel. **List \$145.00**

NATIONAL CRYSTAL HOLDERS

National Crystal Holders are available in three types. All use R-39 insulation for low losses and all are carefully designed for maximum crystal activity. The newest holder (Figure 1) is the Type 4-in-1 and is very con-

venient where a choice of frequencies is desired. It is designed to hold four separate crystals up to 1" square which may be selected by a built-in low capacity switch. The CHV Crystal Holder (Figure 3) is of the variable gap type and, when used with a suitable crystal, permits tuning the crystal over a range of 1 part in 600. The small holder shown in Figure 2 is available in two forms. Type CHR for receivers, resonator type. Type CHT for transmitters, pressure type.



4-in-1 Fig. 1 **List \$7.50**
CHR Fig. 2 **List 2.50**
CHT Fig. 2 **List 2.50**
CHV, less crystal Fig. 3 **List 9.50**
CHV, with 80-meter crystal that will double into the 20-meter phone band **List \$2.50**

NATIONAL CATHODE-RAY OSCILLOSCOPES



The Type CRM oscilloscope is mounted in a small steel cabinet (4 1/8" x 6 1/8" x 8") and uses a one-inch screen RCA-913 with 6X5 rectifier. Power supply and input controls are built in. A panel switch permits use of the built-in 60 cycle sweep or external audio sweep for securing the familiar trapezoid pattern for modulation measurements. **CRM**, less tubes, **List \$18.50**

The Type CRR oscilloscope is mounted on a standard 3 1/2" relay rack panel, and employs a two-inch screen RCA-902 and 6X5 rectifier. The power supply is mounted back of the panel, and input controls are provided. A panel switch permits use of the built-in 60 cycle sweep or external audio sweep for securing the familiar trapezoid pattern for modulation measurements. **CRR**, less tubes, **List \$32.50**



METAL SPEAKER CABINETS



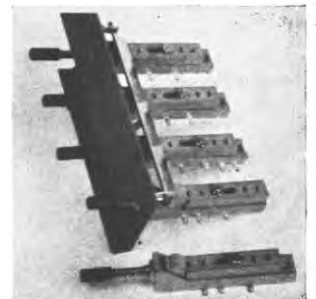
These cabinets are corrected acoustically to prevent undesired resonance peaks. Acoustic felt lined. Finish: black wrinkle.

NDC-8 for 8" speaker **List \$5.00**
NDC-10 for 10" speaker **List \$6.00**

INTERLOCKING PUSH SWITCH

The National Interlocking Push Switch has low losses, complete reliability and positive contacts. Insulation is R-39. The silver-plated contacts are double pole, double throw.

ACS-4, Four gang, with trigger bar **List \$5.00**
ACS-1, Single section, less trigger bar **List \$1.25**



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NATIONAL HRO

The HRO Receiver is a high-gain superheterodyne designed for communication service. Two preselector stages give remarkable image suppression, weak signal response and high signal-to-noise ratio. Air-dielectric tuning capacitors account, in part, for the high degree of operating stability. A crystal filter with both variable selectivity and phasing controls makes possible adjustment of selectivity over a wide range. Heterodynes and interfering c.w. signals may be "phased out" (attenuated) by correct setting of the phasing control. A signal strength meter, connected in a vacuum tube bridge circuit, is calibrated in S units from 1 to 9 and in db above S9 from 0 to 40. Also included are automatic and manual volume control features, a beat oscillator, a headphone jack and a B+ stand-by switch. Power supply is a separate unit. The standard model of HRO is supplied with four sets of coils covering the frequencies from 1.7 to 30 megacycles. Each coil set covers two amateur bands and the spectrum between. The higher frequency amateur band of each range, by a simple change-over operation, may be expanded to occupy 400 divisions of the 500 division PW instrument type dial.

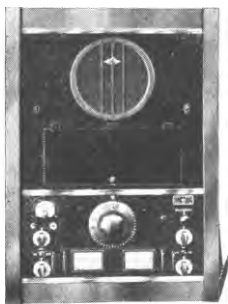
For those who require the high performance of the HRO but do not need its extreme versatility, the HRO Jr. is offered. The fundamental circuit and mechanical details of both receivers are identical, but the HRO Jr. is simplified by omitting the crystal filter, signal strength meter and by supplying coils less the band-spread feature.

The frequency range of both the HRO and HRO Jr. may be extended to 50 kilocycles by using additional coil sets.

A technical bulletin covering completely all details will be supplied upon request.

HRO-C DELUXE COMBINATION

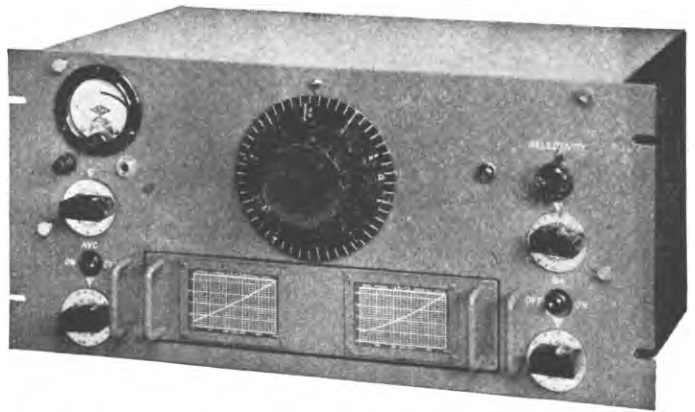
HRO-C, a deluxe receiver installation, see illustration, combines an HRO with an SPC unit (power unit, coil container and loud speaker) in an MRR table rack.



Chromium-plated appearance strips and side trim strips included. **List \$432.50**

SPC, combination of 697 power unit, coil container (5 coil capacity) and 8" PM dynamic speaker. Rack panel, 3/16" x 15 3/4" x 19". Chrome strips included. **List \$90.00**

MRR, table rack, standard width, panel capacity 24 1/2", finish black or gray. Side trim strips included. **List \$22.50**



RECEIVERS

All models of the HRO are supplied with 6.3 volt heater type tubes. Table models and accessories are finished in black wrinkle enamel; rack panel types in either black leatherette or smooth gray enamel.

HRO table model, receiver only, complete with four sets of coils (1.7-4.0, 3.5-7.3, 7.0-14.0, 14.0-30.0 MCS) **List \$299.50**
HRO, same as above, but mounted on 3/16" x 8 3/4" x 19" aluminum panel. **List \$320.00**

HRO Jr., table model, receiver only, with one set of 14 to 30 mc. coils. **List \$180.00**
HRO Jr., same as above, but mounted on an aluminum panel. **List \$200.00**

COILS

HRO Type E, Range 900-2050 kc **List \$20.00**
HRO Type F, Range 480-960 kc **List \$20.00**
HRO Type G, Range 180-430 kc **List \$27.50**
HRO Type H, Range 100-200 kc **List \$30.00**
HRO Type I, Range 50-100 kc **List \$37.50**

HRO Jr. Type JA, Range 14.0-30.0 mc **List \$16.50**
HRO Jr. Type JB, Range 7.0-14.4 mc **List \$16.50**
HRO Jr. Type JC, Range 3.5-7.3 mc **List \$16.50**
HRO Jr. Type JD, Range 1.7-4.0 mc **List \$16.50**

COIL CONTAINER

HCRP coil container, rack panel 3/16" x 8 3/4" x 19", capacity 5 coils. **List \$27.50**

LOUD SPEAKERS

MCS table model cabinet, 8" PM dynamic speaker and matching transformer. **List \$16.50**
RFSH, speaker as above, but mounted on 3/16" x 8 3/4" x 19" aluminum panel. **List \$30.00**

POWER SUPPLIES

697 Table power unit, 115 volt, 60 cycle input; 6.3 volt heater and 230 volt, 75 m.a. output, with tube. **List \$26.50**

686 Table power unit, 6 volt battery operated vibrator pack, 165 volts, 50 m.a. output. **List \$45.00**

SPU-697 Single power unit, rack mounted panel, 3/16" x 5 1/4" x 19". **List \$49.50**

DPU-697 Double power unit, rack mounted, as above but having two separate 697 power units. **List \$79.50**

Shipping weights: HRO — 62 lbs. HRO Jr. — 42 lbs. 697 — 15 lbs. SPU-697 — 36 lbs. DPU-697 — 48 lbs. SPC — 48 lbs. MRR — 21 lbs.

NATIONAL NEW SW-3

General Coverage Coils

Catalog Number	Range	Meters	List Price Per Pair
30	9.	to 15.....	\$5.00
31	13.5	to 25.....	5.00
32	23.	to 41.....	5.00
33	40.	to 70.....	5.00
34	65.	to 115.....	5.00
35	115.	to 200.....	5.00
36	200.	to 360.....	5.50
37	350.	to 550.....	5.50
38	500.	to 850.....	6.50
39	850.	to 1200.....	8.00
40	1200.	to 1500.....	8.00
41	1500.	to 2000.....	8.00
42	2000.	to 3000.....	10.00

Band Spread Coils

30A	— 10 meter.....	\$5.00
31A	— 20 meter.....	5.00
33A	— 40 meter.....	5.00
34A	— 80 meter.....	5.00
35A	— 160 meter.....	5.00

The SW-3 Receivers employ a circuit consisting of one R.F. stage transformer coupled to a regenerative detector and one stage of impedance coupled audio. This circuit provides maximum sensitivity and flexibility with the smallest number of tubes and the least auxiliary equipment. The single tuning dial operates a precisely adjusted two gang condenser; the regeneration control is smooth and noiseless, with no backlash or fringe howl; the volume control is calibrated from one to nine in steps corresponding to the R scale.

ONE UNIVERSAL MODEL — The circuit of the SW-3 is arranged for either battery or AC operation without coil substitution or circuit change. Battery operation utilizes two 1N5-G and one 1A5-G tubes. AC operation utilizes type 5886 AB power supply with two 6J7-G and one 6C5-G tubes.

Shipping Weights: Receiver, 17 lbs. — No. 5886 AB pack, 18 lbs.
SW-3, universal model, without coils, phones, tubes or power supply. **List \$35.00**
5886-AB, Power Supply, 115 V, 60 cycle, with 80 Rectifier. **List \$29.50**



NATIONAL NHU



This specialized communication receiver is a superheterodyne covering the range from 27 to 62 MC in three ranges, each being calibrated on a direct reading full-vision dial.

The circuit uses three acorn tubes (956 RF, 954 First Detector, and 955 Oscillator) followed by three IF stages using 6K7's. A 6C8G Twin Triode is used as an infinite-impedance diode detector, and as a noise limiter. An additional 6C8G acts as first audio and as a carrier-off noise suppressor. Two 6SJ7's are used for the

CW oscillator and for the AVC, which is amplified and delayed. The output employs a 6V6G.

The mechanical details of the NHU are unique. One large knob on the panel slides in or out to engage either the tuning condenser or the range-changing system. Inertia-type tuning is used, with a ratio of approximately 70 to 1. The pointer is positively driven by rack and pinion, and moves vertically when the coil range is changed so that it always points to the proper frequency. The coils are mounted radially in a cast aluminum turret which is easily turned into position by the knob on the panel. Directly above the coil turret is the three-gang straight-line-frequency tuning condenser. The RF circuit and tubes are built completely inside the frame of the condenser, thus making a compact assembly with the shortest possible leads from coils to condensers to tubes.

All features and controls commonly found in high-quality communication receivers are incorporated in the NHU, including a wide range crystal filter.

Battery models operate on 135 to 180 V. B-battery and 6.3 V. A-Battery

NHU Receiver, table model, complete with tubes, 8" speaker with cabinet and coils covering from 27 to 62 MC, but without power supply, black finish.

List \$275.00

NHU-B Receiver, same as above, but for battery operation.

List \$275.00

NHU-20 Receiver, same as NHU but with 20 Meter Coil.

List \$290.00

NHU20B Receiver, same as above but for battery operation.

List \$290.00

Relay rack models of above receivers. Additional.

List \$20.00

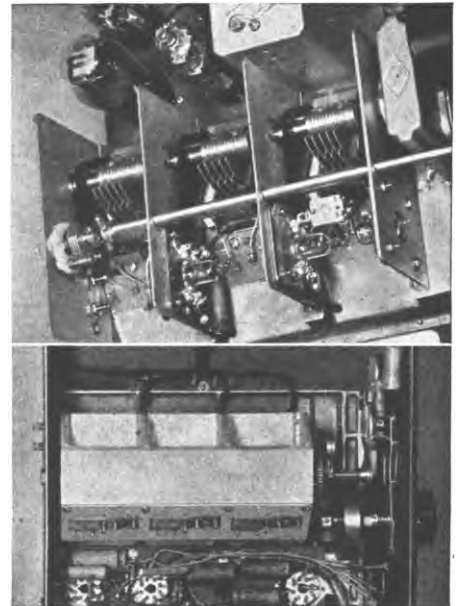
5856 Power Supply, table model with rectifier, for NHU or NHU-20.

List \$29.50

SPU-56 Relay rack power supply with rectifier.

List \$49.50

NHU Shipping Weight, 82 lbs., **5856**, 18 lbs.



NATIONAL ONE-TEN

Designed chiefly for the experimenter, the One-Ten Receiver fulfills the need of the experimenter for an adequate receiver to cover the field between one and ten meters.

A four tube circuit is used, composed of one tuned R.F. stage, a self-quenching super-regenerative detector, transformer coupled to a first stage of audio which is resistance coupled to the power output stage. Tubes required: 954-R.F.; 955-Detector; 6C5-1st Audio, 6F6-2nd Audio.



110 Receiver and 6 sets of coils, without tubes, speaker or power supply. **List \$85.00**

5886 Power Supply for above receiver, with tube. **List \$29.50**

Shipping Weights: Receiver, 16 lbs.—No. 5886 AB pack, 17 lbs.



NATIONAL

NC-100A NC-101X

NC-100XA NC-101XA

These 11 tube superheterodyne receivers are self-contained (except for the speaker) in a table model cabinet that is readily adapted to relay rack mounting. One stage of R.F. and two stages of I.F. are used. Low loss insulation and high-Q coils give ample sensitivity and selectivity. Separate R.F. and Audio Gain Controls and a signal strength meter are mounted on the panel. Other controls are tone, CW Oscillator, AVC with amplified and delayed action, a B+ switch, and a phone jack. A self-contained power supply provides all necessary voltages including speaker field excitation. The range changing system is unique in that it combines the mechanical convenience of a coil switch with the electrical efficiency of plug-in coils.

All **NC-100** series receivers are fitted with a noise limiter of truly remarkable effectiveness.

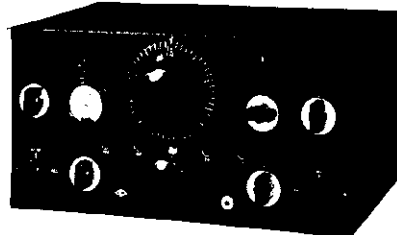
The **NC-100A** illustrated above, covers the range from 540 KC to 30 MC. The large full vision dial is calibrated directly in megacycles and a separate high speed vernier scale provides high precision in logging. The **NC-100XA** is similar but equipped with a crystal filter.

The **NC-101X**, illustrated below, is built strictly for the amateur bands and covers only the following ranges:

1.7-2.05 MC, 3.5-4.0 MC, 7.0-7.3 MC, 14.0-14.4 MC, and 28.0-30.0 MC. The **NC-101X** is equipped with a crystal filter, S-meter, and the PW type instrument dial.

The **NC-101XA** has the same features as the **NC-101X**, except for the direct reading dial and the cabinet, which are similar to the **NC-100XA**. Prices are the same as for the **NC-101X**.

The battery models use 9 tubes, and operate on 180 V. B-batteries and 6.3 V. A-batteries. Power output of AC model 10 watts, battery model 2 watts.



NC-100A — complete with tubes. AC model — 10" speaker in cabinet. **List \$200.00**

Battery model — 8" speaker in cabinet. **List 184.17**

NC-100XA — complete with tubes and crystal filter. AC model — 10" speaker. **List \$237.50**

Battery model — 8" speaker in cabinet. **List 221.67**

NC-100SA — complete with tubes. AC model — 12" Rola G-12 Speaker. **List \$222.50**

NC-100XSA — complete with tubes and crystal filter. AC model — 12" Rola G-12 Speaker. **List \$260.00**

NC-101X — complete with tubes. AC model — 10" speaker in cabinet. **List \$215.00**

Battery model — 8" speaker in cabinet. **List 200.00**

NDC-10 — Metal Cabinet for 10" speaker, same finish as receiver. **List \$6.00**

NDC-8 — Metal Cabinet for 8" speaker, same finish as receiver. **List \$5.00**

Note: Cabinets for 12" speaker chassis cannot be supplied.

RRA Relay Rack Adapters, designed for mounting any of the above receivers in a standard relay rack. **List, per pair, \$2.50**

Note: 230 volt 50 cycle and 115 volt 25 cycle models of above receivers available at slightly higher price.

Shipping weights: NC100A, 70 lbs. — NC100XA, 71 lbs. — NC101X, 71 lbs.

NOTE: Special models of the **NC-100** receiver with bands covering the 200-400 KC range are available. Data and prices furnished upon request

NATIONAL

NC-44

The new **NC-44** Communication Receiver combines capable performance with low price. It employs seven tubes in a superheterodyne circuit. There are separate controls for RF and AF gain, and on and off switches for the AVC and CWO circuits. The self-contained power supply operates on 105-130 volts AC or DC. A battery model is available for operation with 90-135 V. B-battery and 6.3 V. A-battery. A model for operation from a self-contained AC power supply is listed for the first time.

A straight-line-frequency condenser is used in conjunction with a separate band spread condenser. This combination plus the full vision dial calibrated in frequency for each range covered and a separate linear scale for the band spread condenser, makes accurate tuning easy. Both condensers have an inertia-type drive. A coil switch with silver plated contacts selects the four ranges from 550 KC to 30 MC. Provision is made for either head phone or speaker operation.

Like all receivers which have no preselector stage, the **NC-44** is not free from images. However, where price is an important consideration, the **NC-44** will be found a satisfactory receiver.

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NC-44 — Receiver, complete with tubes, coils covering from 550 KC to 30 MC, and speaker in cabinet, for 105-130 volts AC or DC operation — black finish. **List \$82.50**

NC-44B — Receiver, same as above but for battery operation, less batteries. **List \$82.50**

NC-44A — Receiver, same as above but for 105-130 volts AC only. **List \$82.50**

RRA — Relay Rack Adapters designed for mounting these receivers in a standard relay rack. **List \$2.50**

Shipping Weights: **NC-44**, 45 pounds — **NC-44B**, 45 pounds.



NATIONAL

NC-200



The National NC-200 is a new communications receiver having a number of features not previously available. Twelve tubes are used in a highly perfected circuit that includes an extremely effective noise limiter. The crystal filter has an exceptionally wide selectivity range for use on both CW and phone, as well as a phasing circuit that makes rejection ratios as high as 10,000 to 1 available even when the interfering signal is only a few hundred cycles from the desired signal. The AVC holds the audio constant within 2 db for signals from 10 microvolts to 100,000 microvolts. The sensitivity of the NC-200 is particularly high, requiring only 1 microvolt input for 1 watt of audio output on the highest frequencies covered by the receiver. Signal-to-image ratio is better than 30 db at ten meters.

There are ten calibrated coil ranges, each with its own scale on the direct-reading dial. Six of these ranges provide continuous coverage from 490 KC to 30 MC. The remaining four ranges cover the 10, 20, 40 and 80 meter bands, each of which is spread over the major portion of the dial scale. Ranges are selected by a panel control knob. A movable-coil system similar to the NC-100 is used. The inertia-type dial drive has a ratio of 30 to 1.

All models of the NC-200 are suitable for either AC or battery operation, having both a built-in AC power supply and a special de-

tachable cable and plug for battery connection. Removal of the speaker plug disconnects both plate and screen circuits of the audio power stage thus providing maximum battery economy. The B supply filter and the standby switch are wired to the battery terminals, so that the filter is available for vibrator or dynamotor B supplies.

The ten-inch speaker is housed in a separate cabinet specially designed to harmonize with the trim lines of the receiver. The undistorted output is 8 watts.

All features expected in a fine communication receiver are provided. These include CW oscillator, Signal Strength Meter, B-supply switch, etc.

NC-200 TG Table Model, two tone Gray wrinkle **List \$245.83**

Price includes a 10" P.M. dynamic speaker in cabinet.

NC-200 RG Rack Model, Gray or Black wrinkle, mounted on 3/16" aluminum panel **List \$275.83**

Price includes a 10" P.M. dynamic speaker mounted on 10 1/2" rack panel.

Shipping weight approx. 95 lbs.





NATIONAL 600 WATT TRANSMITTER

The National 600 Watt Transmitter is a compact and efficient unit of flexible design. The standard design provides a plate input of 600 watts on 10, 20, 40 or 80 meters.

An NTE Exciter-Speech Amplifier (described on page 15) is used as speech amplifier and as exciter for the buffer and final amplifier unit immediately above it. A Pi Network antenna coupler at the top of the cabinet completes the RF units.

The buffer and final amplifier unit features a compact, open construction that results in short leads, symmetry of the push-pull circuit and complete accessibility. The final employs a pair of 100 TH's driven by a single 35T as buffer.

The modulator chassis is immediately above the Exciter-Speech Amplifier, which serves as driver for the Class B amplifier. A pair of zero-bias 203-Z tubes provide 300 watts of modulating power.

Power for the modulator stage is supplied by the power unit immediately below the NTE. This 1250 volt supply also provides power for the buffer.

The power supply at the bottom of the cabinet delivers 300 MA at 2000 Volts for the final.

All transformers and chokes are Thordarson CHT units, except those in the NTE, which are special units of National manufacture. **The National 600 Watt Transmitter**, as described, complete except for the microphone. **List \$1,727.50**



TRANSMITTER FOUNDATION UNITS

The individual units of the 600 Watt Transmitter described above are available as separate chassis. In the table below, the first column lists completely wired and tested units. The chassis listed

in the second column are drilled, punched and formed, and ready for assembly. Panels, brackets, screws and small hardware are included.

UNIT	WIRED AND TESTED		FINISHED ASSEMBLY	
High Voltage Supply	NT 2000 PCW	\$265.00	NT 2000 PC	\$12.00
Medium Voltage Supply	NT 1200 PCW	\$150.00	NT 1200 PC	\$12.00
Class B Modulator	NT 300 PCW	\$127.50	NT 300 PC	\$12.00
Final Amplifier	NT 100 PCW	\$245.00	NT 100 PC	\$16.00
Pi Network Coupler	NT-APW	\$55.00	NT-AP	\$2.00
Relay Control Panel	NT-RPW	\$45.00		

NATIONAL POWER SUPPLIES

National Power Supplies are specially designed for high frequency receivers, and include efficient filters for RF disturbances as well as for hum frequencies. The various types are listed under the receivers with which they are used.

FOR AC OPERATION, 115 volt, 50-60 cycle.

Type 697, Table model, (230 V., 75 MA., 6.3 V. Filaments) with tube **List \$26.50**

5886, Table model, (170 V., 50 MA., 6.3 V. Filaments, with tube **List \$29.50**

GRSPU, Rack mounted, same electrical characteristics as either 697 or 5886, with tube **List \$49.50**

GRDPU, Rack mounted, with two separate and complete power supplies same as GRSPU, with tubes **List \$79.50**

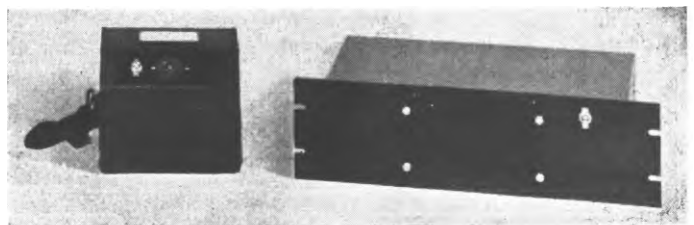
FOR AC OPERATION, 230 volt or 25 cycle.

Supplies for 230 volts or 25 cycles can be supplied at slightly higher prices than the standard models.

FOR BATTERY OPERATION

High voltage power supplies can be supplied for National Receivers for operation from batteries. These units are of the vibrator type. Complete information will be given on request.

686, Table model, (165 V., 50 MA.,) for operation from 6.3 volts DC, with vibrator **List \$45.00**



HIPOWER

CRYSTALS RUBIES & EMERALDS

HIPOWER 'RUBY'



Type LTC 1

160—80 and 40 meter crystal units.

The ARISTOCRAT of amateur crystal control units. Designed to give peak performance in the amateur bands. Constantly improving a GOOD product, has resulted in these compact units, incorporating the finest workmanship and materials.

Each unit consists of a precision ground LOW-DRIFT crystal of high activity, mounted in a correctly designed molded Bakelite holder. "ALUMILITE" electrodes are used to insure an extremely hard and polished surface. The holder is plug-in type and fits into a five prong tube socket.

The temperature coefficient of this unit is 4 cycles or less per MC. per ° C.

BUILT RIGHT — PRICED RIGHT — WILL MAKE YOUR TRANSMITTER LOOK BETTER AND WORK BETTER.

Type LTC 1 supplied within 5 Kc. of specified frequency or choice of dealers stock	Net Price \$4.50
Supplied within 1 Kc. of specified frequency	5.50

HIPOWER 'EMERALD'

Type LTC 2



160—80 and 40 meter crystal units.

This crystal unit has every modern feature. An efficient unit, designed to meet the requirements of the amateur who desires LOW-DRIFT, LOW COST, STABLE crystal control.

Consisting of an extremely active crystal with a temperature coefficient of 10 cycles or less per MC. per ° C. Mounted between NICKEL SILVER electrodes, in a molded Bakelite holder, for plug-in mounting in a five prong tube socket.

TRULY A QUALITY PRODUCT. Sold at a price far below the value of a unit, giving complete satisfaction under all conditions.

Type LTC 2 supplied within 5 Kc. of specified frequency or choice of dealers stock	Net Price \$3.35
Supplied within 1 Kc. of specified frequency	4.35

Type "AH" CRYSTAL HOLDER

This popular all purpose crystal holder needs no introduction, as thousands are in use daily, in amateur transmitters all over the world.

It is a molded Bakelite plug-in type holder for use with 160 and 80 meter crystals, accommodating crystals up to 1" square.

Constant pressure, from a spiral spring, holds the crystal securely between NICKEL SILVER electrodes.

Unit plugs into any standard five prong tube socket.

Supplied with Banana pins 50c extra



Type "AH 10" UNMOUNTED CRYSTALS

A precision ground crystal for use in the 160 and 80 meter amateur bands. Made from high grade selected Brazilian Quartz. These crystals are LOW-DRIFT, active oscillators with a temperature coefficient of 10 cycles per MC. per ° C.

These are the crystals which made HIPOWER CRYSTALS the standard of comparison.

Type AH 10 sold unmounted only,

1715 to 2000 Kc., or 3500 to 4000 Kc. supplied within 10 Kc. of specified frequency or choice of dealers stock

Supplied within 1 Kc. of specified frequency

HIPOWER 'RUBY'



Type TH 3

An outstanding gem among 20 meter crystal units. A unit which foreshadows tomorrow's requirements for ultra-high frequency control.

Designed to give the super-stability necessary in modern transmitters operating in the crowded amateur bands. This dependable unit also incorporates a crystal of high activity,

with a temperature coefficient of 4 cycles or less per MC. per ° C. Mounted between "ALUMILITE" electrodes, in a plug-in type holder, especially engineered for high frequency operation.

The low price of this unit is made possible only through our high production facilities. Our advance is your gain.

Type TH 3—14000 to 14400 Kc. within 15 Kc. of specified frequency or choice of dealers stock	Net Price \$7.25
Type TH 3—14400 to 15000 Kc. within 30 Kc. of specified frequency or choice of dealers stock	7.25
Supplied within 5 Kc. of specified frequency	11.25

HIPOWER 'EMERALD'

Type TH 10

This Unit is Without Competition

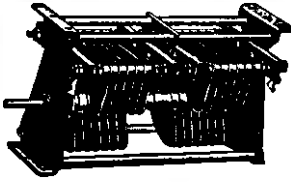
A 20 meter crystal unit unsurpassed in QUALITY and PRICE. It IS a LOW-DRIFT crystal, with a temperature coefficient of 10 cycles or less per MC. per ° C. Extremely accurate methods of manufacture, has enabled us to produce a unit with much less drift, than most units sold at anywhere near our price.

This active crystal is also mounted between "ALUMILITE" electrodes, in a plug-in type, molded Bakelite holder, for five prong tube socket mounting.

Type TH 10—14000 to 14400 Kc. within 15 Kc. of specified frequency or choice of dealers stock	Net Price \$5.50
Type TH 10—14400 to 15000 Kc. within 30 Kc. of specified frequency or choice of dealers stock	5.50
Supplied within 5 Kc. of specified frequency	9.50

The Biggest Dollar For Dollar Value Offered to the Radio Amateur Today

BUD RADIO PRODUCTS



MASTER TRANSMITTING CONDENSERS

For greater efficiency. Heavy aluminum rounded plates. Aluminum end plates, rigid frame, close fitting cone type bearings. Phosphor bronze rotor contact. Mycalex insulation. Made in SINGLE, DUAL and ULTRA HIGH FREQUENCY types. Panel space required $3\frac{1}{8}'' \times 3\frac{1}{8}''$.

Cat. No.	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Behind Panel	Net Price
BC-1600	40	7	5	.100"	3 3/8"	\$ 4.05
BC-1601	55	8	7	.100"	4"	4.44
BC-1602	70	9	9	.100"	4 3/8"	4.80
BC-1603	100	13	13	.100"	4 1/2"	5.01
BC-1604	150	17	17	.100"	5 1/8"	5.25
BC-1605	250	22	29	.100"	7 3/8"	6.00
BC-1606	340	27	39	.100"	9 1/8"	7.20
BC-1607	25	10	5	.200"	4 1/8"	4.50
BC-1608	35	11	7	.200"	4 3/8"	4.80
BC-1609	50	13	11	.200"	5 1/8"	5.10
BC-1610	75	16	15	.200"	6 1/8"	5.40
BC-1611	100	20	21	.200"	8 1/8"	5.70
BC-1612	145	35	29	.200"	10 1/8"	6.90
BC-1613	35	14	9	.300"	5 1/8"	5.10
BC-1614	55	18	15	.300"	8"	6.00
BC-1615	75	21	21	.300"	10 1/8"	6.90
BC-1616	100	28	29	.300"	12 7/8"	7.50
BC-1617	30	15	9	.375"	6 1/8"	5.40
BC-1618	50	22	15	.375"	9 1/8"	6.30
BC-1619	75	28	25	.375"	13 1/8"	7.50

MASTER DUAL CONDENSERS

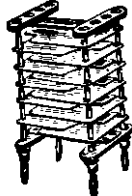
BC-1620	80	9	7	.070"	6 3/8"	\$6.00
BC-1621	100	10	9	.070"	6 7/8"	6.60
BC-1622	150	12	13	.070"	7 7/8"	7.20
BC-1623	250	15	21	.070"	9 3/8"	9.00
BC-1624	40	10	5	.100"	6 1/8"	6.00
BC-1625	55	8	7	.100"	6 3/8"	6.30
BC-1626	70	9	9	.100"	7 3/8"	6.90
BC-1627	100	13	13	.100"	8 3/8"	7.50
BC-1628	150	17	17	.100"	9 3/8"	8.40
BC-1629	200	20	23	.100"	11 3/8"	9.00
BC-1630	35	12	7	.200"	8 3/8"	6.90
BC-1631	50	13	11	.200"	10 3/8"	8.10
BC-1632	75	16	15	.200"	12 1/8"	9.00
BC-1633	100	20	21	.200"	15 1/8"	9.60
BC-1634	50	15	13	.300"	13 3/8"	9.30

MASTER U.H.F. CONDENSERS

1635	25	7	5	.200"	7 3/8"	\$ 9.30
1636	35	11	7	.200"	8 3/8"	10.20
1637	50	13	11	.200"	10 1/8"	11.10
1638	75	16	15	.200"	12 1/8"	12.00

STAT-AIR CONDENSERS

Keeping a proper L/C ratio in all-band operation is now simplified by using a variable air condenser as a vernier and plug Fixed Stat-air sections in parallel with the tank tuning condenser for lower frequency operation. Brass plates with rounded edges are solder welded to their shafts for sturdy, uniform, low loss construction. Alsimag 196 insulation. Fitted with standard banana plugs. Cadmium plated finish.



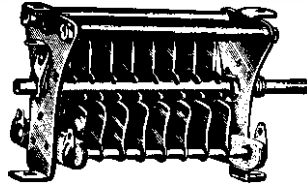
Junior Type

Cat. No.	Cap.	Air Gap	Mtg. Area	Net Price
777	25 mmfd.	.144"	1 1/4" x 1 1/2"	\$1.98
780	50 mmfd.	.144"	1 1/4" x 1 1/2"	2.31
781	100 mmfd.	.144"	1 1/4" x 1 1/2"	2.97
782	100 mmfd.	.078"	1 1/4" x 1 1/2"	2.49
783	150 mmfd.	.078"	1 1/4" x 1 1/2"	2.97

Senior Type

Cat. No.	Cap.	Air Gap	Mtg. Area	Net Price
778	25 mmfd.	.238"	2" x 2 1/4"	\$2.31
784	50 mmfd.	.238"	2" x 2 1/4"	2.64
785	100 mmfd.	.100"	2" x 2 1/4"	2.64
786	100 mmfd.	.238"	2" x 2 1/4"	3.30
787	150 mmfd.	.100"	2" x 2 1/4"	3.15

JUNIOR TRANSMITTING CONDENSERS



A new conception in design and construction make these condensers ideal for use in low and medium power transmitters. Recommended for portable and air-craft equipment where efficient, light weight, small size and rigid construction are a factor. Satin Finished Aluminum end plates have two formed brackets for universal mounting and coil supports. Plates are Cadmium plated hard temper brass with edges rounded and solder welded to their respective shafts for uniform spacing and low loss construction. Dural tie rods add rigidity to frame. Brass bearings. Phosphor bronze contacts. Alsimag 196 insulation. Panel space required $2\frac{3}{8}'' \times 3''$.

Cat. No.	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Behind Panel	Price Net
1525	50	4	7	.051"	2 1/2"	\$1.65
1526	100	6	13	.051"	2 7/8"	1.80
1527	145	7	19	.051"	3 3/8"	2.13
1528	250	11	33	.051"	4 1/8"	2.64
1529	340	15	43	.051"	5 1/8"	3.30
1530	25	4	5	.078"	2 7/8"	1.62
1531	35	4	7	.078"	2 5/8"	1.71
1532	55	6	11	.078"	3"	1.89
1533	80	7	15	.078"	3 1/8"	1.98
1534	110	9	21	.078"	4 1/8"	2.31
1535	150	12	29	.078"	4 7/8"	2.79
1536	190	15	37	.078"	5 3/8"	3.45
1537	245	17	47	.078"	6 1/8"	4.11
1538	20	5	7	.144"	3"	1.80
1539	40	7	13	.144"	3 1/8"	1.98
1540	55	9	17	.144"	4 1/8"	2.31
1541	80	12	25	.144"	5 1/8"	2.64
1542	105	15	33	.144"	7 1/8"	3.06
1543	18	5	7	.175"	3 3/8"	1.98
1544	40	9	15	.175"	4 1/8"	2.64
1545	55	10	19	.175"	5 1/8"	2.97
1546	85	16	31	.175"	8"	3.30
1547	100	17	37	.175"	9 1/4"	3.96

JUNIOR DUAL CONDENSERS

Cat. No.	Max. Cap. Per Sec.	Min. Cap. Per Sec.	No. Plates Per Sec.	Air Gap	Length Behind Panel	Net Price
1550	20	3	3	.051"	3 1/2"	\$2.31
1551	50	5	7	.051"	4 1/8"	2.79
1552	70	5	9	.051"	4 3/8"	3.30
1553	100	6	13	.051"	5"	3.60
1554	145	7	19	.051"	5 7/8"	4.29
1555	200	9	25	.051"	6 3/8"	4.80
1556	250	11	33	.051"	7 1/8"	5.61
1557	25	4	5	.078"	4 7/8"	2.79
1558	35	4	7	.078"	4 1/8"	2.97
1559	55	6	11	.078"	5 1/4"	3.30
1560	80	7	15	.078"	6 1/8"	3.81
1561	110	9	21	.078"	7 1/8"	4.11
1562	150	11	29	.078"	8 1/8"	4.95
1563	20	5	7	.144"	5 3/8"	3.30
1564	40	7	13	.144"	7 1/8"	3.60
1565	55	9	17	.144"	8 1/8"	3.87
1566	18	5	7	.175"	5 3/8"	3.60
1567	40	9	15	.175"	8 3/8"	4.11

JUNIOR U.H.F. CONDENSERS

Dual Types Only Plates .040 Thick

No. Cat.	Cap. Max. Per Sec.	Cap. Min. Per Sec.	Plates No. Per Sec.	Gap Air	Length Panel Behind	Net Price
1569	200	9	25	.051"	6 3/8"	\$5.40
1570	25	4	5	.070"	4 1/8"	3.00
1571	35	4	7	.070"	4 7/8"	3.60
1572	55	6	11	.070"	5 1/4"	4.20
1573	80	7	15	.070"	6 1/8"	4.80
1574	20	5	7	.136"	5 1/8"	4.05
1575	40	7	13	.136"	7 1/8"	4.50
1576	55	9	17	.136"	8 1/8"	5.10

SEE BUD CATALOG FOR OTHER CONDENSERS AND ITEMS NOT LISTED ON THESE PAGES

BUD RADIO PRODUCTS

TINY MITE CONDENSERS

For efficient tuning of ultra-high frequency circuits. Alsmag 196 insulation. Soldered brass plate assemblies, cadmium plated. Rear shaft extension for gauging. Three way mounting. Mounting space 1 1/2" x 1 1/4".

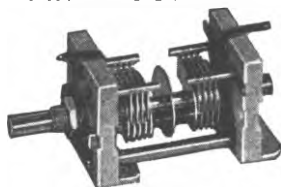


Cat. No.	Max. Cap. mmfd.	Min. Cap. mmfd.	Air Gap.	Net Price
LC-1640	8	2.5	.017"	\$0.57
LC-1641	13	3	.017"	.63
LC-1642	25	4	.017"	.72
LC-1643	35	5	.017"	.84
LC-1644	50	6	.017"	.90
LC-1645	75	7	.017"	.99
LC-1646	100	9	.017"	1.08
LC-1647*	140	12	.017"	1.38
LC-1648	10	4	.037"	.66
LC-1649	15	5	.037"	.84
LC-1650	25	5.5	.037"	.99
LC-1651	35	6	.037"	1.11
LC-1652*	50	8	.037"	1.32
LC-1653	6	3.5	.073"	.75
LC-1654	15	5.5	.073"	.93
LC-1655*	25	9	.073"	1.23

* Indicates DOUBLE BEARING type.

TINY MITE DUAL CONDENSERS

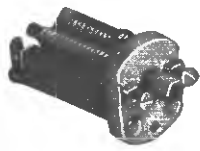
The two end pieces are held together firmly with insulated tie rods, and a separate round plate on the rotor rod is provided to shield the two stator sections.



Cat. No.	Cap. per sec.		Air Gap	Net Price
	Max.	Min.		
LC-1660	15	3	.017"	\$1.32
LC-1661	25	4	.017"	1.44
LC-1662	50	6	.017"	1.65
LC-1663	100	9	.017"	1.80
LC-1664	10	4	.037"	1.50
LC-1665	15	5	.037"	1.65
LC-1666	25	5.5	.037"	1.80
LC-1667	35	6	.037"	1.98

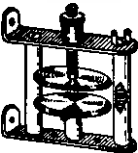
TINY MITE AIR PADDERS

Holds constant capacity under varying atmospheric conditions or vibration. Fits into 1 1/2" dia. coil form. Ideal for trimming, tuning or padding components used in high frequency circuits.



Cat. No.	Max. Cap. mmfd.	Min. Cap. mmfd.	Air Gap	Net Price
LC-1680	15	3	.017"	\$0.66
LC-1681	25	4	.017"	.72
LC-1682	50	6	.017"	.84
LC-1683	75	7	.017"	.93
LC-1684	100	9	.017"	1.05

UNIVERSAL NEUTRALIZING CONDENSERS

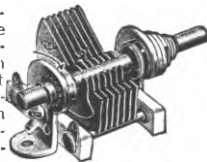


Can be mounted with plates in either horizontal or vertical position for most efficient layout. Solid frame construction. Two heavy duty Alsmag 196 pillars insulate rotor from stator. All metal parts are aluminum. Plates are rounded and buffed.

Cat. No.	Plate Dia.	Recommended for	Net Price
1000	1 1/2"	T40, 35T, HF100	\$1.65
1001	2 1/8"	T200, 250T, etc.	2.40
1002	4 1/4"	750T, etc.	3.30

MIDGET CONDENSERS

A superior built condenser for mid line tuning. Positive wiping contact with screw adjustment eliminates mechanical noises on high frequencies. Isolantite insulation. Soldered brass plate assemblies. Heavy aluminum end plates with closely fitted bearings for smooth operation. Carefully designed and constructed for maximum efficiency. Extended shaft from rear for gauging several units.



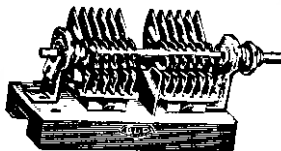
Cat. No.	Max. Cap. mmfd.	Min. Cap. mmfd.	Plates	Net Price
926	15	3	3	\$0.75
900	20	3	3	.78
902	35	4	5	.84
903	50	5	7	.90
904	80	6	11	1.05
905	100	6	14	1.23
906	140	7	19	1.32
907	150	7	21	1.44
908	200	9	27	1.59
909	250	10	33	1.65
910	325	12	43	1.98

MULTI-SPACED MIDGET CONDENSERS

Cat. No.	Max. Cap. mmfd.	Min. Cap. mmfd.	Air Gap	Net Price
565	15	4	.060"	\$0.99
897	35	6	.060"	1.11
898	50	7	.060"	1.32
899	75	8	.060"	1.71
941	100	10	.060"	1.98
965	35	9	.095"	1.32
966	50	11	.095"	1.65
967	75	14	.095"	1.98

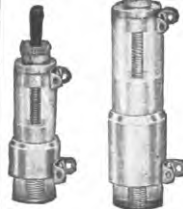
DUAL MIDGET CONDENSERS

For short wave receivers and low power transmitters. Mounted on ceramic base. Construction similar to single midget condensers.



Cat. No.	Cap. per Sect.		Air Gap	Net Price
	Max.	Min.		
911	100	6	.024"	\$1.98
912	140	7	.024"	2.31
913	35	5	.060"	1.98
942	20	4	.060"	1.98
329	35	9	.095"	2.31
330	50	7	.060"	2.31
331	75	8	.060"	2.61

COMPACT NEUTRALIZING CONDENSERS



Tubular construction makes them extremely compact. No. NC-1928 uses ceramic insulation and is intended for use with 1000 volts or less. Nos. NC-1929 and NC-1930 use Lucite insulation and are for use with 2000 and 3000 volts respectively.

Cat. No.	Cap. Mmfd.	Recommended for	Net Price
NC-1928	.25 to 4	807, 6L6, etc.	\$0.33
NC-1929	.25 to 4.75	HK-54, TZ-40, etc.	.75
NC-1930	1 to 9.5	100T, T-125, etc.	.96

BUD MIDGET CONDENSERS

These condensers are of the straight line frequency type. Panel or base mounting. Isolantite insulation. Closely fitted single end bearing for constant and definite capacity. Soldered brass plate assemblies.



Cat. No.	Max. Cap. mmfd.	Min. Cap. mmfd.	Plates	Net Price
324	10	2	2	\$0.54
328	15	3	3	.54
323	20	3	3	.54
322	35	4	5	.60
148	50	5	7	.66
901	80	6	11	.75
321	100	6	14	.78
396	140	7	19	.87
320	150	7	21	.96

SINGLE BEARING DUAL-SPACED CONDENSERS

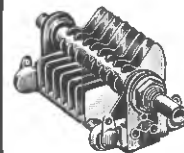
Spacing between plates .060".

Cat. No.	Max. Cap. mmfd.	Min. Cap. mmfd.	Net Price
327	6	2	\$0.54
311	15	4	.66
319	35	6	.81
312	50	7	.90

MIDGET CONDENSERS

SEMI-CIRCULAR PLATE TYPE

Identical in construction to Bud Midline condensers except that plate design is semi-circular or straight-line capacity. Rotor plate diameter is 1 1/2".



DOUBLE BEARING—SINGLE SPACING

Cat. No.	Max. Cap. Mmfd.	Min. Cap. Mmfd.	Air Gap	Net Price
MC-1850	15	4	.024"	\$0.78
MC-1852	35	5	.024"	.84
MC-1853	50	6	.024"	.90
MC-1855	100	7	.024"	1.23
MC-1857	150	9	.024"	1.47
MC-1858	200	9	.024"	1.59
MC-1859	250	10	.024"	1.65
MC-1860	320	13	.024"	1.98

MULTI-SPACING

MC-1861	15	5	.060"	\$0.99
MC-1862	35	7	.060"	1.11
MC-1863	50	8	.060"	1.32
MC-1864	75	10	.060"	1.71
MC-1865	100	13	.060"	1.98
MC-1866	35	9	.095"	1.32
MC-1867	50	10	.095"	1.65
MC-1868	75	14	.095"	1.98

SINGLE BEARING—SINGLE SPACING

MC-1870	15	4	.024"	\$0.51
MC-1872	35	5	.024"	.57
MC-1873	50	6	.024"	.63
MC-1875	100	7	.024"	.75
MC-1876	140	7	.024"	.81

DOUBLE SPACING

MC-1879	15	5	.060"	\$0.60
MC-1880	35	7	.060"	.75
MC-1881	50	8	.060"	.84

6L6 NEUTRALIZING CONDENSER

For 6L6, 6V6, 807, RK41, RK39, etc. Small, compact and well built. Heavy 1" dia. aluminum plates with edge rounded and polished. Thumb nut locking device.



Cat. No.	Capacity mmfd.	Net Price
890	.5 to 9	\$0.60

BUD RADIO PRODUCTS

SECTIONAL CABINET RELAY RACK



Build a cabinet rack to your required height without having waste space. A complete rack from 3 1/2", progressing in multiples of 1 1/2" to any desired height. Side wall sections are 14 1/2" deep. Front and back flanges drilled and tapped for 10-32 screw. Fit both W.E. and Amateur type rack panels. Dust covers can be supplied as listed. Made from heavy gauge steel, finished in durable black crackle. Supplied with necessary hardware.

No.	Net Price
1300—Base Assembly— Size 20 1/4" x 15 3/4" x 2 1/2"	\$3.00
1301—Top Cover. 19 1/4" x 14 1/4" x 1/2"	1.65

Side Wall Sections

Consist of two side wall sections complete with mounting brackets, bolts, nuts, etc.

Cat. No.	Size	Net Price
1302	3 1/2" x 14 1/2"	\$1.35
1303	5 1/4" x 14 1/2"	1.50
1304	7" x 14 1/2"	1.65
1305	8 3/4" x 14 1/2"	1.98
1306	10 1/2" x 14 1/2"	2.19
1307	12 1/2" x 14 1/2"	2.64
1308	14" x 14 1/2"	2.79
1309	15 3/4" x 14 1/2"	3.00
1310	17 1/2" x 14 1/2"	3.30
1311	19 1/4" x 14 1/2"	3.45
1312	21" x 14 1/2"	3.60

Dust Cover Back Sections

Slotted to fit standard rack drilling.

Cat. No.	Size	Net Price
1313	3 1/2" x 19"	\$0.51
1314	5 1/4" x 19"	.60
1315	7" x 19"	.66
1316	8 3/4" x 19"	.84
1317	10 1/2" x 19"	.99
1318	12 1/2" x 19"	1.14
1319	14" x 19"	1.35
1320	15 3/4" x 19"	1.50
1321	17 1/2" x 19"	1.65
1322	19 1/4" x 19"	1.80
1323	21" x 19"	1.98

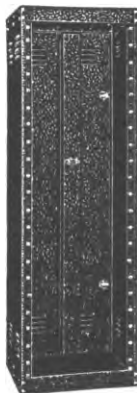
MIDGET RELAY RACKS

An ideal unit for that low power transmitter, amplifier or test panel. Made of heavy gauge sheet steel. Black crackle enamel finish. Drilled to fit 19" rack panels. Light in weight. Sturdily built. Shipped knocked down with necessary hardware. Easy to assemble.

No. 1248—Over-all height 24", width 20".
Depth of base 12". Panel space 21".
Net Price \$3.75

No. 1249—Over-all height 31", width 20".
Depth of base 12". Panel space 28".
Net Price \$4.95

PROFESSIONAL CABINET RACKS



A sturdy, stylish rack for Commercial, Amateur and Industrial use. Made from 16 gauge steel throughout. Black crackle finish. Drilled and tapped for 10-32 screw to fit either W.E. or Amateur notched rack panels. Sides louvred for ample ventilation. Hinged rear door has two snap catches. Shipped knocked down with all screws, nuts and washers.

No. 874 — Height 47", width 21", depth 17".
Panel space 42".

Net Price \$21.60

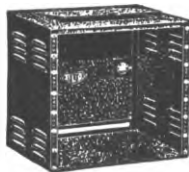
No. 875 — Height 60 1/2", width 21", depth 17".
Panel space 61 1/4".

Net Price \$26.70

No. 884—Height 82", width 21", depth 17".
Panel space 77".

Net Price \$32.40

GENERAL CABINET RACKS



Ideal for transmitters, Public Address and Laboratory equipment. Made from 1/8" thick, cold rolled steel. Beautifully finished in black crackle. All joints welded. Louvred for ventilation. Drilled and tapped 10-32 for either W.E. or Amateur notched 19" rack panels. Hinged doors have nickel plated snap catch. No. 697 and 698 have solid top construction.

No.	H.	W.	D.	Panel Space	Net
694	9"	x19 1/2"	x13 3/4"	8 3/4"	\$4.80
695	10 3/4"	x19 1/2"	x13 3/4"	10 1/2"	6.00
696	17 3/4"	x19 1/2"	x14 1/2"	17 1/2"	9.00
697	26 1/2"	x19 1/2"	x14 1/2"	26 1/4"	9.75
698	35 1/4"	x19 1/2"	x14 1/2"	35"	11.40

Trim can be supplied for above racks. See Bud Catalogue.

STANDARD RELAY RACKS



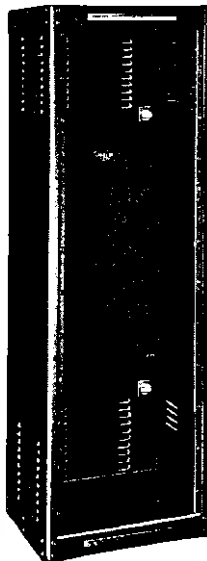
Made to standard specifications. 1/2" x 3" steel channels braced with 1/2" steel brackets. Holes drilled and tapped 10-32. Will fit W.E. or Amateur notched 19" rack panels. Black crackle finish. Shipped knocked down with necessary hardware.

No. 1263—Over-all height 35 1/2", width 20".
Base Depth 22", Panel space 31 1/2". Shpg. Wght. 32 lbs.
Net Price \$9.60

No. 1264—Over-all height 70 1/2", width 20".
Base depth 22", panel space 66 1/2". Shpg. Wght. 45 lbs.
Net Price \$11.40

No. 1265 — Heavy Duty commercial type.
Height 72 1/2", width 20". Base depth 15".
Panel space 66 1/2". Shpg. Wght. 90 lbs.
Net Price \$21.60

STREAMLINE CABINET RACKS

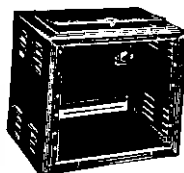


Rounded corners at the front of these cabinets add an ultra-modern touch to an already pleasing appearance. Constructed from heavy 16 gauge steel. Trimmed at top and bottom with chrome strip moulding. Drilled and tapped 10-32 to fit either W.E. and/or Amateur notched rack panels. Sides are louvred for ventilation. Full length rear door has two snap catches. Overall width is 22". Inside depth clearance 16". Supplied with interlock switch bracket for safety. Shipped knocked down with all necessary hardware for easy assembly. Finished in Crackle enamel, GREY or BLACK optional as requested. Sides without louvres for bays can be supplied when so ordered.

Cat. No.	Overall Height	Panel Space	Shipping Weight	Net Price
CR-1771	47"	42"	100 lbs.	\$26.40
CR-1772	66 1/2"	61 1/4"	140 lbs.	31.50
CR-1773	82"	77"	165 lbs.	37.50

STREAMLINE GENERAL CABINET RACKS

A beautiful streamline effect has been added to these cabinets by putting a radius on the front vertical edges. These are ideal housings for transmitters, Amplifiers, etc. Panels are recessed to fit flush with front of cabinet. Drilled and tapped 10-32 to fit either W.E. or Amateur notched rack panels. All sizes have recessed hinged cover in top with snap catch. The three larger sizes also have hinged rear door with snap catch. Chrome trim moulding is attached to top and bottom of cabinet. Overall width 22", depth 14 1/4" GREY or BLACK crackle finish optional. Shipped completely assembled with all necessary hardware.



These are ideal housings for transmitters, Amplifiers, etc. Panels are recessed to fit flush with front of cabinet. Drilled and tapped 10-32 to fit either W.E. or Amateur notched rack panels. All sizes have recessed hinged cover in top with snap catch. The three larger sizes also have hinged rear door with snap catch. Chrome trim moulding is attached to top and bottom of cabinet. Overall width 22", depth 14 1/4" GREY or BLACK crackle finish optional. Shipped completely assembled with all necessary hardware.

Cat. No.	Panel Space	Overall Height	Net Price
CR-1741	8 3/4"	10 3/4"	\$ 7.50
CR-1742	12 1/4"	14 1/4"	9.00
CR-1743	17 1/2"	19 1/2"	12.00
CR-1744	26 1/4"	28 3/4"	13.50
CR-1745	35"	37"	15.00

SMALL CABINET RACK

This small, inexpensive cabinet is ideal for emergency transmitters and has many other uses. Made of sheet steel, welded corners, hinged rear door has key lock. Overall size 18" wide, 21 1/4" high, 10" deep. Will take chassis 8 1/2" deep x 15" wide. Black crackle finished. Supplied complete with one 10 1/2" x 18 1/2" and one 8 3/4" x 16 1/2" panel.



Cat. No.	Shipping Weight	Net Price
RC-1749	25 lbs.	\$7.50

**ASK FOR A COMPLETE
BUD CATALOGUE**

RADIO BUD PRODUCTS

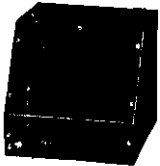
OSCILLOSCOPE CABINETS



A size for 1", 2" and 3" cathode-ray tubes. Ideal for housing experimental television equipment. Rounded front corners. Louvres on sides for ventilation. Black crackle finish. Supplied complete with chassis and bakelite terminal strip.

Cat. No.	Height	Width	Depth	Chassis Size	Net Price
C-1754	7"	8"	7 1/2"	7 3/4" x 5 1/4" x 1 1/2"	\$3.60
C-1755	8"	8 1/2"	11"	10 3/4" x 5 1/4" x 2"	4.20
C-1756	9 1/2"	9 1/2"	15"	14 3/4" x 5 1/4" x 3"	4.80

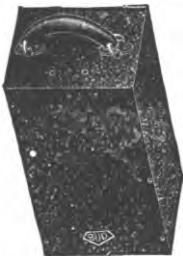
SLOPING PANEL CABINETS



Excellent as housings for field strength meters, frequency meters, laboratory equipment, etc. The entire front panel is removable so chassis can be attached. Vertical portion of panel is 2 1/4" high for mounting dial plates. Made of sheet steel, solidly welded and black crackle finished.

Cat. No.	Width	Depth	Height	Net Price
C-1584	7"	7 1/4"	6 1/2"	\$1.95
C-1585	9"	7 1/4"	6 1/2"	2.25
C-1586	11"	7 1/4"	6 1/2"	2.55

METAL CARRYING CASES



Ideal for housing portable transceivers, amplifiers, etc. Removable front and rear panels. Ruggedly constructed yet light in overall weight. Black crackle finished. All seams and corners reinforced and spot welded. Substantial leather carrying handle.

Cat. no.	Size	Net Price
1096	6" x 7" x 12"	\$1.59
1097	7" x 7 3/4" x 15"	1.95
1100	7" x 10" x 10"	1.80

SPEAKER CABINETS



For housing loud speakers in portable and permanent installations. Solidly constructed from cold rolled sheet steel. Fully enclosed. Back cover louvred for ventilation. Metal grill over speaker opening protects speaker. Black crackle finish. Has carrying handle.

Cat. No.	Speaker Size	Cabinet Size	Net Price
471	6"	9x9x6	\$2.25
472	8"	11x11x7	2.76
473	10"	13x13x8	3.60
474	12"	15x15x8	4.80

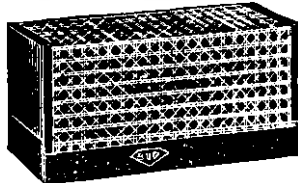
STREAMLINE AMPLIFIER FOUNDATIONS



Rounded edges on cover. Grill work in top and louvres in sides of cover for ventilation. Chrome trim and handles. Cover attached by chrome thumb screws. Overall height 9", chassis height 3". BLACK or GREY crackle finish optional.

Cat. No.	Chassis Width	Chassis Depth	Net Price
CA-1750	10"	5"	\$2.40
CA-1751	12"	7"	2.85
CA-1752	17"	7"	3.45
CA-1753	17"	10"	3.90

AMPLIFIER FOUNDATION KIT



An amplifier built on these foundation kits will have real professional appearance. Chassis is formed from heavy-gauge cold-rolled steel. Corners are folded over and welded. Shield cover is sheet metal perforated in cane design. Finished in black crackle. Chassis furnished undrilled.

No.	Overall Size	Chassis Height	Net Price
499	5" x 9 1/2" x 8 1/4"	2 1/2"	\$1.50
1125	6" x 13 1/2" x 8 1/4"	2 1/2"	1.77
1126	7" x 17" x 8 1/4"	2 1/2"	2.19
1127	10" x 17" x 8 1/4"	3"	2.70
1128	10" x 12" x 8 1/4"	3"	2.25

METER CASES



A convenient and safe means for making portable instruments out of any 2" and 3" round or square panel mounting meters. Several sizes for 1, 2 and 3 meters. Made of sheet steel. Black Crackle finish. Size 4" deep, 4 1/2" high. Insulators supplied only on one meter cases.

Cat. No.	Meters	Hole Dia.	Net Price
CM-1241	1	2 3/8"	\$0.90
CM-1687	2	2 3/8"	1.35
CM-1688	3	2 3/8"	1.80
CM-1242	1	2 1/2"	.90
CM-1689	2	2 1/2"	1.35
CM-1690	3	2 1/2"	1.80

BUD BOX TYPE SHIELDS

These shields are recommended to shield transformers, audio chokes, variable gang condensers etc., and isolate them from other circuits in the instrument, thereby eliminating magnetic and electrostatic interference. Made from cold rolled sheet steel. All seams and corners spot welded for rigidity. Formed flanges on bottom to attach to chassis. Finished in black crackle enamel. Size 4 1/2" x 7 1/2" x 5" high.



No. 1244—Net Price \$0.66

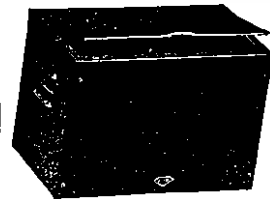
STREAMLINE CABINETS



Distinctive styling for receivers, instruments etc. Rounded front vertical edges. Hinged top. All corners spot-welded. Black crackle finish. Height 8", depth 8 1/4".

Cat. No.	Panel Size	Overall Width	Net Price
C-1746	8" x 10"	12 1/2"	\$2.25
C-1747	8" x 12"	14 1/2"	2.55
C-1748	8" x 14"	16 1/2"	2.85

METAL CABINETS



Made from heavy gauge sheet steel, all corners reinforced and spot welded. Hinged lid. Louvres on side. Removable front panel. Black crackle finish.

Cat. No.	Size—Inches	Net Price
973	7 x 8 x 7 1/2	\$1.65
993	7 x 10 x 6	1.65
994	7 x 12 x 7 1/2	1.95
995	7 x 14 x 7 1/2	2.10
999	7 x 10 x 8	1.95
1190A	8 x 16 x 8	3.54
975A	9 x 15 x 11	3.87

METAL BOX CABINETS



Excellent for housing Monitors, oscillators, receivers, etc. Front and back panels removable. Black crackle finish.

Cat. No.	Size—Inches	Net Price
883	2" x 4" x 4"	\$0.54
728	3" x 5" x 4"	.60
1098	6" x 6" x 6"	.69
1099	5" x 6" x 9"	1.05
879	7" x 8" x 10"	1.35
1124	6" x 7" x 12"	1.41
880	8" x 10" x 10"	1.65
881	8" x 11" x 12"	1.80
882	7" x 9" x 15"	1.95

CHASSIS DECKS

These mounting bases will fit Bud metal box cabinets. Made of rust proof zinc coated steel and sturdily constructed. Can be mounted to panel any height from bottom.

Cat. No.	Fits No.	Net Price
522	1098 Cabinet	\$0.27
523	1099 Cabinet	.24
524	879 Cabinet	.36
525	1124 & 1096 Cabinet	.30
526	880 Cabinet	.42
527	881 Cabinet	.45
528	882 Cabinet	.39
536	1097 Cabinet	.36
537	1100 Cabinet	.42

BUD RADIO PRODUCTS

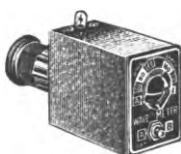
CODE PRACTICE OSCILLATOR



For individual or group practice. Uses 117L7GT tube and works on A.C. or D.C. Has provision for two keys and an additional speaker. Two tones selected by switch on front panel. Comes complete with built in dynamic speaker and tube.

Cat. No.	Net Price
CPO-120—Oscillator	\$7.95
CPS-121—Add. Spkr.	1.90

WAVEMETER



A highly useful device for the proper adjustment and operation of an amateur transmitter. Necessary for detecting harmonics, standing waves, neutralization, etc. Comes with dial plate calibrated from 10 to 160

meters and handswitch on front panel. Indicator bulb supplied.

Cat. No.	Net Price
WM-77	\$4.35

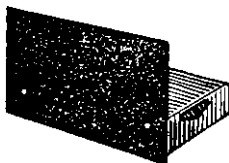
OPEN END CHASSIS



These light weight steel chassis fit BUD metal cabinets and have many other uses. Ends are folded over $\frac{3}{8}$ " for additional strength. Zinc plated finish.

Cat. No.	Size—Inches			Fits Cab. No.	Net Price
	D.	W.	H.		
CB-38	7	6	2	C-1584	\$0.36
CB-30	5	7	1 1/2		.30
CB-41	7	7	1 1/2	C-973	.39
CB-39	7	8	2	C-1585	.42
CB-996	5 1/2	9	1 1/2	C-993	.36
CB-976	7 1/2	9	1 1/2	C-999, C-1746	.45
CB-40	7	10	2	C-1586	.45
CB-997	7	11	1 1/2	C-994, C-1747	.48
CB-998	7	13	1 1/2	C-995, C-1748	.57
CB-34	10 3/4	14	2	C-975A	.87
CB-35	7 3/4	15	2	C-1190A	.75

PANELS

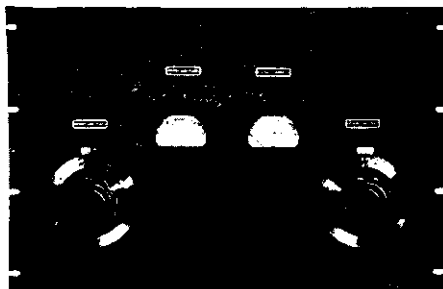


Metal panels are 16 Ga. cold rolled steel.

Masonite panels are $\frac{3}{8}$ " thick, easy to drill and work. Both types are black crackle finished.

STEEL			MASONITE		
Cat. No.	Net	Size	Cat. No.	Net	Size
1200	\$0.27	7x8		\$	
1201	.33	7x10	607	.39	
1202	.39	7x12	608	.45	
1203	.45	7x14	609	.51	
239	.39	8x10	606	.45	
240	.45	8x12	610	.51	
1204	.48	8x14	611	.57	
1205	.54	8x16	612	.66	
1187	.60	8x18			
1188	.69	8x19			
700	.57	9x15	613	.69	

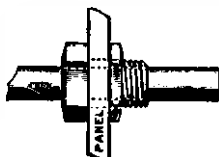
500 WATT R.F. AMPLIFIER KITS



Unusual features not previously found in the average push-pull radio-frequency Amplifier are incorporated in these kits giving the amateur a really different "Final" of high efficiency, new type layout and design. Semi-skeleton style of construction. No closed metallic loops to cause losses due to circulating currents, etc. Layout symmetrical for both parts and wiring. Uses standard, medium power triode tubes. Kits come with drilled panel and formed and drilled metal parts. All kits come complete, less Meters, Tubes and Coils. Use BUD OCL and VCL coils with these amplifiers.

BPA 500	For 5, 10, 20 and 40 meters.	Net Price	\$24.00
BPA 500-LF	For 20, 40, 80 and 160 meters.	Net Price	25.50
BPA 500-S	Foundation kit. (Drilled panel, semi-chassis and brackets).	Net Price	3.60

BUD PANEL BEARING ASSEMBLY



Is ideal for use with rigid or flexible couplings when mounting volume controls, condensers, etc. back from the panel. Shaft is slotted and held

securely to bearing with horse-shoe washers to keep shaft from shifting. Brass bearing fits up to $\frac{1}{8}$ " thick panel.

No.	Net Price
530—Overall length 6"	\$.24
531—Overall length 3"	.18
532—Bearing only	.09

ETCHED DIAL PLATES (Plain)

These dial plates are made of high grade tempered aluminum. Raised polished dial divisions and numerals on black satin finish background. Center hole will fit over $\frac{3}{8}$ " bushing.



Cat. No.	Size	Arc	Calibrated	Net Price
1175	3"	180°	0 to 100	\$0.18
1176	3"	180°	100 to 0	.18
1177	2"	180°	0 to 100	.12
1178	2"	180°	100 to 0	.12

WITH MARKING

2" Dia. calibrated 0-100 in 300° rotation.

Cat. No.	Marking	Net Price
1224	Record	\$.12
1225	Microphone	.12
1226	Gain	.12
1227	Tone	.12
1179		.12
1228	Tone Control (arrow calib.)	.12
1229	Volume (arrow calib.)	.12
1273	Marked 1 to 5 for sw.	.12

BUD TUNING DIALS

For Use on Transmitters and Other Equipment



Made of heavy gauge brass, spun and chrome plated. Black die stamped numerals. Large bakelite knob, brass insert. Insulated from shaft. Supplied with No. 1736 Indicator.

FLUTED KNOBS—180 DEG.

Cat. No.	Dial Div.	Diam.	Net Price
D-1732	0-100	2 3/4"	\$0.87
D-1733	100-0	2 3/4"	.87
D-1734	0-100	4"	1.35
D-1735	100-0	4"	1.35

TAPERED KNOBS—180 DEG.

Cat. No.	Dial Div.	Diam.	Net Price
D-713	0-100	2 3/4"	.75
D-714	100-0	2 3/4"	.75
D-715	0-100	4"	1.11
D-716	100-0	4"	1.11

INDICATORS ONLY

Cat. No.	Type	Net Price
IN-723	Vernier Indic. for 2 3/4" Dials.	\$0.18
IN-725	Vernier Indic. for 4" Dials.	.18
IN-1736	Single Line Indicator.	.06

RECTANGULAR TYPE

Size 1 1/4"x2 1/4". Calibrated 0-10 in 300° rotation.

Cat. No.	Marking	Net Price
978	Record	\$.12
979	Microphone	.12
980	Gain	.12
981	Tone	.12
982		.12



JACK NAME PLATES

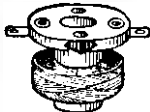
For identifying input and output circuits. Polished letters on black satin background. Fit on $\frac{3}{8}$ " dia. bushings. 1 1/4" diameter.

No.	Marking	Net Price
1180	Microphone	\$.09
1181	Phono Pick Up	.09
1182	Phones	.09

BUD RADIO PRODUCTS

LATTICE-WOUND R.F. CHOKES

Low D.C. resistance, high impedance. Moisture proof; low distributed capacity. Wound on Isotex.



No.	M.H.	Net	No.	M.H.	Net
1212	2.5	\$.21	1217	16	\$.33
1213	3.4	.24	1218	30	.36
1214	5.5	.27	1219	60	.45
1215	8.	.27	1220	80	.48
1216	10.	.30			

MAGICORE "HY-Q" R.F. CHOKES



IRON CORE
These new metallic alloy core chokes have nearly double Q factor of air core coils. High permeability with minimum hysteresis. Wound with silk covered enamel wire.

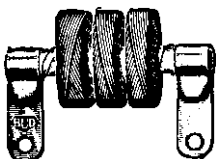
Cat. No.	Inductance	Net Price
1277	1.5 M.H.	\$.051
1278	2.5 M.H.	.51
1279	3.4 M.H.	.54
1280	5.5 M.H.	.54
1281	8 M.H.	.60
1282	10 M.H.	.60
1283	16 M.H.	.69
1284	30 M.H.	.69
1285	60 M.H.	.78
1286	80 M.H.	.87
1287	125 M.H.	1.08

HY-FREQUENCY R.F. CHOKES

For H.F. receivers and low powered transmitters. Wound with SSE wire on Isolanite core. Extremely low distributed capacity.

Cat. No.	Inductance	Net Price
920	2.5 M.H.	\$.027
922	5.5 M.H.	.36
923	8. M.H.	.45
924	10. M.H.	.51

BUD H.F. TRANSMITTING CHOKE



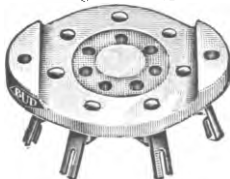
This newly designed choke is for use with the new medium power transmitting tubes in high and ultra-high frequency circuits. Three lateral wound pies on 1/2" diameter Isolanite core. Heavy strap leads. Size 3/8" diameter by 1 1/2" long. Inductance: 2.5 M.H.; D.C. Res. 16 ohms; Current Cap. 250 MA. continuous; Dist. Cap. 2 mmfd.

No. 876 Net Price \$0.51

ASK FOR A COMPLETE BUD CATALOG
Which Describes Numerous Other Money Saving Items Not Listed Here

ISOTEX SOCKETS

Moisture-proof, high surface resistance. Low loss effect. Sub-panel, base-mounting. Size 2 1/4" x 1 1/2".



No.	Net	No.	Net
954 4 pr.	\$.24	957 7 Sm.	\$.30
955 5 pr.	.24	958 7 Lge.	.30
956 6 pr.	.27	959 8 Pr.	.33

BUD TUBE SOCKETS

Made of Bakelite

Are constructed of the finest materials throughout, using genuine phosphor bronze contacts. Top is grooved for tube guide. Excellent for regular as well as experimental work. Used as standard equipment by manufacturers of test equipment.



PANEL MOUNT

No.	Net Price
268 4 Prong	\$.015
269 5 Prong	.15
270 6 Prong	.18
271 7 Prong Lge.	.18
983 7 Prong Sm.	.18
1060 5, 6, Sm. 7 Pr. Comb.	.21
1061 7 Prong Combination	.18
1062 4, 5, 6 Prong Comb.	.21
1063 8 Prong, Octal	.21

BUD COMBINATION BASE OR PANEL MOUNT SOCKETS

Made of Bakelite

No.	Net Price
264 4 Prong	\$.018
265 5 Prong	.18
266 6 Prong	.21
267 7 Prong (Reg.)	.24
885 7 Prong (Small)	.24

TRANSMITTER R.F. CHOKES

Pie Wound

Exceptionally low power loss, no transmission bands. Continuous windings of 5 lateral wound tapered sections. Low D.C. resistance.

Ind. 2.8 M.H.; 5 ohms D. C. Res.; rating 1000 M.A.	No. 568	Net \$1.05
Ind. 5.3 M.H.; 12 1/2 ohms D.C. Res.; rating 500 M.A.	No. 569	Net \$0.90

U. H. F. linear wound, Ind. 15 micro-henries, 2 ohms D.C. Res.; rating 4 amps.
No. 570 Net \$0.60

BUD ULTRA HY-FREQ. R.F. CHOKE

A compact, well designed R.F. choke for use in ultra high frequency transmitters and receivers. Wound on Isolanite core. Size — 1 1/2" long, 3/8" diameter, inductance 5.7 microhenries, resistance 1.4 ohms. Current rating—750 m.a.
No. 925 Net \$0.15



BUD TOGGLE SWITCHES

For controlling radio sets, small motors, lamps, etc. Underwriter approved. Rated 3 amps. at 125 volts or 1 amp. at 250 volts. Supplied in nickel plated or staturary bronze finish. Made by H&H for BUD. Packed 5 to Carton.



Cat.	Description	Shank Length	Net Price
1003	S.P.S.T.	1/2"	\$0.24
1004	S.P.S.T.	3/8"	.27
1005	S.P.D.T.	1/2"	.33
1006	S.P.D.T.	3/8"	.36
1007	D.P.S.T.	1/2"	.45
1008	D.P.S.T.	3/8"	.51
1009	D.P.D.T.	1/2"	.57
1010	D.P.D.T.	3/8"	.60
1077	Closes 3 circuits for R.C.A., etc.		.42

BUD ROTARY SWITCHES

Positive contact rotary power switch, underwriter approved. Rated 3 amps. at 125 volts and 1 amp. at 250 volts. Copper plated steel encased, Bakelite insulation. Shafts are 1 1/2" long. Made by H&H for BUD.



Cat.	Description	Shank Length	Net Price
499	S.P.S.T.	3/8"	\$0.27
1070	S.P.S.T.	1"	.33
1071	S.P.D.T.	3/8"	.33
1072	S.P.D.T.	1"	.42
1073	D.P.S.T.	3/8"	.51
1074	D.P.S.T.	1"	.60
1075	D.P.D.T.	3/8"	.60
1076	D.P.D.T.	1"	.69

PUSH BUTTON SWITCHES

Two circuit non-indicating slow make and quick break momentary contact switch. One circuit is "ON" and the other is normally "OFF."

No. 743 Price \$0.42

POWER SWITCHES

These heavy duty switches are ideal for primary circuits in transmitters. They are D.P.S.T. but can be paralleled for larger capacity. Rated 12 amps. 125 volts. Size 1 3/4" x 3/4" x 3/4". Shank 3/8" long. Push button and Toggle types.

No.	Net Price
No. 1270—Push button	\$.120
No. 1269—Toggle	.69

FLEXIBLE COUPLINGS

For ganging units or shaft extensions. Fit 1/4" diameter shafts.



No.	Dia.	Insulation	Net
855	1 1/2"	Bakelite	\$0.21
845	1"	Fibre	.15
795	1 1/8"	Isotex	.27

High Voltage Type

Glazed Isolanite Rod Insulation
No. 741—3 1/4" long... Net \$0.48
No. 740—1 3/4" long... Net .39

HEAVY DUTY COUPLER

New type spring construction. Very flexible. Alsimag 196 disc is 1 1/2" dia. x 3/8" thick. Fits 1/4" shafts.



Cat. No.	Insulation	Net
614	Alsimag 196	\$0.45
619	Bakelite	.30

FLEX-O-SHAFTS

Will turn at angles up to 90 degrees. Free from back lash. 1/4" hubs sweated on each end to fit any type coupling.

No.	Length	Net
No. 859	Length 3"	Net \$0.21
No. 860	Length 6"	Net .30

GIANT SOCKETS

For Transmitting Tubes

Base made of Isotex, glazed top and sides to resist moisture. Snug fitting machined jack type contacts.



226—50 watt size	Net \$0.60
227—For RK28, 803, etc.	Net .90

BAT HANDLE SWITCHES

Same construction as regular toggle switch except handle is shaped like ball bat and is trifle longer. Nickel plated. Shank 1/8".



Cat. No.	Description	Net Price
SW-1115	S. P. S. T.	\$0.24
SW-1118	S. P. D. T.	.33
SW-1119	D. P. S. T.	.45
SW-1120	D. P. D. T.	.57

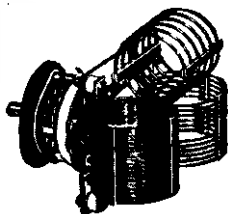
OSCILLATOR

High quality aluminum used. Raised polished letters on black satin finish. For transmitters, amplifiers, etc. Furnished with following inscriptions:

Oscillator	Receiver	Amplifier
Plate Volts	Send-Receive	Plate Voltage
Microphone	Power Amp.	Off-On
Input	Neutralizer	Class "B" Mod.
Monitor	Fader	Grid Current
Send	Antenna	Crystal Osc. Plate
Selector	Key	Microphone Current
Crystal Osc.	A.C. Input	200-Ohm Input
CW-Phone	Transceiver	200-Ohm Output
200-Ohm	Speech Amp.	500-Ohm Input
500-Ohm	Gain Control	500-Ohm Output
Tone Control	Grid	Radio
Output	Modulator	Record
Freq. Meter	Doubler	Speaker
Beat Osc.	Transmitter	Net Price.....\$0.06

RADIO PRODUCTS

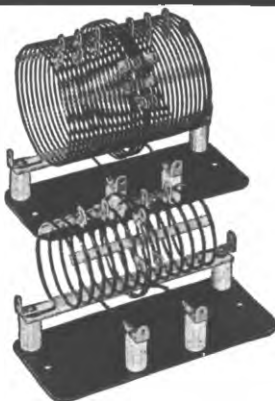
BAND SWITCH ASSEMBLIES



Made in 50 and 100 watt sizes. No. OCS-1 is for oscillator and buffer use with capacity coupling. Nos. OCS-2 and XCS-2 are for single ended operation with link coupling. Nos. OCS-3 and XCS-1 are center tapped and center-linked. All types except Nos. OCS-16 and XCS-16 are for all band operation from 10 to 160 meters. Nos. OCS-16 and XCS-16 are for 10 and 160 meters only. All units tune with

single 100 mmfd. condenser or dual 200 mmfd. condenser in split-stator. Supplied with nameplate, mounting hardware and instructions.

Cat. No.	Rating	Net Price
OCS-1	50 watts	\$3.30
OCS-2	50 watts	4.50
OCS-3	50 watts	5.40
OCS-16	50 watts	2.10
XCS-1	100 watts	6.00
XCS-2	100 watts	5.40
XCS-16	100 watts	3.75



ANTENNA MATCHING NETWORK COILS

Designed to meet all of the various requirements encountered in antenna matching networks. Made in 500 and 1000 watt sizes and in two values of inductance. The low frequency coil in each size is for 40 to 160 meter operation and the high frequency coil is for 10 and 20 meter operation. Coil and links have a large number of

taps allowing the inductance and coupling to be varied over a wide range.

Cat. No.	Rating	Range in Meters	Net Price
ACV-1	500 watts	40 to 160	\$3.42
ACV-2	500 watts	10 to 20	2.64
ACM-1	1000 watts	40 to 160	6.60
ACM-2	1000 watts	10 to 20	5.10



EVER-READY TEST LEADS

Made of the finest quality insulated flexible wire. Black lead is negative, red positive.

No. 280—42" long. Supplied with spade terminals or phone tips..... Net Price \$0.36

No. 184—42" long. Removable needle point inserted into the chuck; penetrates the insulation without injury; spade or phone tip terminals. Net Price \$0.39

No. 1841—42" long. Long fixed needle point; spade or phone tip terminals. Net Price \$0.39

No. 621—De-Luxe Test Leads—60" long. Heavy duty with removable tips; phone tip terminals; handles are polished hard rolled fibre; extremely flexible. Continuity test tips are the chuck type..... Net Price \$0.75

BAR KNOBS



Genuine bakelite. White pointer stripe. Has numerous uses.

No.	Type	Size	Color	Net Price
K-579	A	1 1/4"	Black	\$0.06
K-580	A	1 1/4"	Walnut	.06
K-174	A	1 1/4"	Red	.09
K-204	A	1 1/4"	Green	.09
K-581	A	2 1/4"	Black	.08
K-582	A	2 1/4"	Walnut	.08
K-175	A	2 1/4"	Red	.11
K-205	A	2 1/4"	Green	.11
K-575	B	1 1/4"	Black	.06
K-576	B	1 1/4"	Walnut	.06
K-559	B	1 1/4"	Red	.09
K-577	B	2 1/4"	Black	.08
K-578	B	2 1/4"	Walnut	.08
K-560	B	2 1/4"	Red	.11

SEE BUD CATALOGUE FOR OTHER TYPES AND STYLES OF KNOBS.

NEUTRALIZING WRENCH



Inside of tube is broached. If end breaks part can be cut off.

No. 254—5 1/2" long. Net Price.....\$0.15
No. 255—8" long. Net Price..... .18
No. 256—12" long. Net Price..... .24

DE LUXE ADJUSTABLE NEUTRALIZING TOOL

No metal parts. Made of high di-electric, hard rolled fibre. Screw driver slides into one end of handle.

Net Price
No. 236—Adjustable. 7" to 10".....\$0.39
No. 237—Adjustable. 11" to 17"..... .51

BUD NEUTRO-WRENCH



Alligator jaw type for knurled and hex head trimmers. Metal blade screw driver at other end.

NEUTRALIZING SCREW DRIVER

Hard rolled fibre handle.

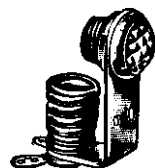
No. Net Price
235—No metal ends.....\$0.21
287—With metal blade..... .21

4-IN-1 NEUTRALIZING AND ALIGNING TOOL



No. Net Price
118\$0.39
119M—Majestic Attachment12
119C—Crosley Attachment15

ASK FOR A COMPLETE BUD CATALOGUE WHICH DESCRIBES NUMEROUS OTHER MONEY SAVING ITEMS NOT LISTED HERE



JEWEL LIGHT ASSEMBLIES

For Radio and Electric Panel Switchboards, Signal Devices, etc. Single hole mounting. Jewel holder, polished chrome plated brass. Specify color wanted. Red, Green, Amber, Blue, Opal, Crystal

1/2" Dia. Jewel, Mtg. Bracket Depth 1 1/8"
Mtg. hole dia. 1/8"

No.	Type	Socket	Jewel	Net
JL 1692 F	Miniature	Facetted		\$0.15
JL 1692 S	Miniature	Smooth		.15
JL 1693 F	Cand. 110 volt	Facetted		.18
JL 1693 S	Cand. 110 volt	Smooth		.18
JL 1694 F	Min. Bayonet	Facetted		.18
JL 1694 S	Min. Bayonet	Smooth		.18

3/4" Dia. Jewel, Mtg. Bracket Depth 1 1/8"
Mtg. hole dia. 1/8"

JL 1695 F 110 volt Facetted .36

1" Dia. Jewel, Mtg. Bracket Depth 2"
Mtg. hole dia. 1"

JL 1698 F	Cand. 110 volt	Facetted		.60
JL 1698 S	Cand. 110 volt	Smooth		.60
JL 1699 F	Min. Screw	Facetted		.60
JL 1699 S	Min. Screw	Smooth		.60
JL 1699 F	Min. Bayonet	Facetted		.60
JL 1699 S	Min. Bayonet	Smooth		.60



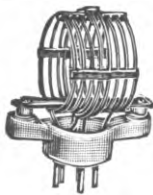
JEWEL HOLDERS

Fit panels up to 1/4" thick. Specify color wanted.

Red, Green, Amber, Blue, Opal, Crystal

No.	Jewel	Size	Net
JL 1696 F	Facetted	1/2"	\$0.09
JL 1696 S	Smooth	1/2"	.09
JL 1697 F	Facetted	3/4"	.24
JL 1691 F	Facetted	1"	.51

RADIO PRODUCTS



OSCILLATOR AND BUFFER COILS

Low loss, highly efficient, air wound. Windings are properly spaced and securely locked to acetate strips. Proper L/C ratio. Glazed ceramic base fits standard 5 prong tube socket. Conservative rating 50 watts.

OCL coils have link at center with main winding center tapped.

OEL coils have links at one end and are NOT tapped.

CENTER LINKED AND TAPPED

Cat. No.	Band	Capacity*	Net Price
OCL-160	160 Meters	90 mmfd.	\$0.99
OCL-80	80 Meters	75 mmfd.	.90
OCL-40	40 Meters	50 mmfd.	.90
OCL-10	10 Meters	28 mmfd.	.90
OCL-20	20 Meters	33 mmfd.	.90
OCL-5	5 Meters	18 mmfd.	.75

END LINKED NO TAP

OEL-160	160 Meters	90 mmfd.	.99
OEL-80	80 Meters	75 mmfd.	.90
OEL-40	40 Meters	50 mmfd.	.90
OEL-20	20 Meters	33 mmfd.	.90
OEL-10	10 Meters	28 mmfd.	.90
OEL-5	5 Meters	18 mmfd.	.75

CENTER ADJUSTABLE LINK

OLS-160	160 Meters	95 mmfd.	.99
OLS-80	80 Meters	75 mmfd.	.90
OLS-40	40 Meters	50 mmfd.	.90
OLS-20	20 Meters	33 mmfd.	.90
OLS-10	10 Meters	21 mmfd.	.90

* Denotes total capacity required to tune to resonance at the low frequency end of the band.

AIR-WOUND TANK COILS



A highly efficient air-wound inductance having the proper L/C ratio for phone operation. Large size enameled copper wire in the coil insures against heating losses. All coils have fixed center link. Windings are cemented to acetate strips. Alsmag 196 insulation.

Nickel plated brass hardware.

150 WATT

Cat. No.	Band	Capacity*	Net Price
RCL-160	160 Meters	87 mmfd.	\$2.25
RCL-80	80 Meters	68 mmfd.	2.10
RCL-40	40 Meters	36 mmfd.	1.92
RCL-20	20 Meters	27 mmfd.	1.62
RCL-10	10 Meters	25 mmfd.	1.50
AM-1932	Mfg. base for above coils.		.48

500 WATT

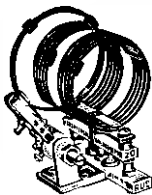
VCL-160	160 Meters	90 mmfd.	2.70
VCL-80	80 Meters	69 mmfd.	2.40
VCL-40	40 Meters	26 mmfd.	2.10
VCL-20	20 Meters	23 mmfd.	1.95
VCL-10	10 Meters	21 mmfd.	1.80
VCL-5	5 Meters	14 mmfd.	1.65
AM-1356	Mounting Base for Above Coils		.66

KILOWATT

MCL-160	160 Meters	86 mmfd.	5.70
MCL-80	80 Meters	73 mmfd.	4.95
MCL-40	40 Meters	37 mmfd.	4.50
MCL-20	20 Meters	33 mmfd.	4.20
MCL-10	10 Meters	24 mmfd.	3.90
MCL-5	5 Meters	18 mmfd.	3.60
AM-1354	Mounting for Above Coils		1.05

* Denotes total capacity required to tune to resonance at the low frequency end of the band.

ADJUSTABLE LINK TRANSMITTER COILS



All coils in this series incorporate adjustable link coupling. In each series the link winding is attached to the jack bar into which the coils are plugged. One link coil is used for all tank coils in the series and is controllable from the panel by means of a 1/4" shaft. The link coil on the 150 watt size is a single layer helical-wound coil. On the 500 watt and 1000 watt sizes, a new type eccentric helical wound link is used. This type of winding allows maximum coupling to be obtained with various diameters of tank coils.

150 WATT

Cat. No.	Band	Capacity*	Net Price
RLS-160	160 Meters	95 mmfd.	\$1.95
RLS-80	80 Meters	78 mmfd.	1.80
RLS-40	40 Meters	38 mmfd.	1.56
RLS-20	20 Meters	30 mmfd.	1.35
RLS-10	10 Meters	28 mmfd.	1.29
AM-1339	Base and link assembly for above		1.95

500 WATT

VLS-160	160 Meters	95 mmfd.	2.19
VLS-80	80 Meters	70 mmfd.	2.01
VLS-40	40 Meters	36 mmfd.	1.71
VLS-20	20 Meters	28 mmfd.	1.56
VLS-10	10 Meters	21 mmfd.	1.41
AM-1352	Base and link assembly for above		2.70

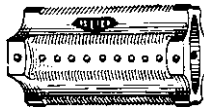
1000 WATT

MLS-160	160 Meters	95 mmfd.	4.80
MLS-80	80 Meters	65 mmfd.	4.35
MLS-40	40 Meters	37 mmfd.	3.90
MLS-20	20 Meters	33 mmfd.	3.60
MLS-10	10 Meters	25 mmfd.	3.15
AM-1340	Base and link assembly for above		4.20

* Denotes total capacity required to tune to resonance at the low frequency end of the band.

TRANSMITTER TANK FORMS

Made in three sizes to cover the inductance requirements of the amateur frequency spectrum. These forms are grooved for No. 10 wire or smaller and drilled with sufficient holes for wires and supports. Isotex is a special moulded low loss ceramic having exceptional low loss properties. All forms are glazed.



No. 383—20 or 40 meter form is grooved twenty-four turns in 4" of winding space. Size 2 1/2" O. D. x 5" long.

Net Price\$0.75

No. 384—20 or 40 meter form with supports.

Net Price\$1.35

No. 376—80 meter form is grooved thirty-two turns in 5" of winding space. Size 3" O. D. x 7 1/4" long.

Net Price\$1.05

No. 377—80 meter form with supports.

Net Price\$1.65

No. 393—160 meter form is grooved forty-eight turns in 6" of winding space. Space 4" O. D. x 7 1/4" long.

Net Price\$1.35

No. 394—160 meter form with supports.

Net Price\$1.95

SHORT WAVE PLUG-IN COIL FORMS MADE OF LOW LOSS BAKELITE

Supplied with disc in top which permits writing in wave-length range, and makes identification positive. These forms are supplied in 4, 5, and 6 prong units to fit standard tube sockets. All sizes have eight ribs moulded on wall of coil forms which give low loss air core windings.



GIANT COIL FORMS

2 1/4" in diameter. 3 1/4" winding space.

No.	List	Net
734	4 prong	\$0.39
735	5 prong	.42
736	6 prong	.45

Same as above, but threaded 12 turns per inch for space winding coils.

No.	List	Net
1221	4 Prong	\$0.54
1222	5 Prong	.57
1223	6 Prong	.60

SENIOR COIL FORMS

1 1/2" in diameter. 2 1/2" winding space.

No.	List	Net
125	4 Prong	\$0.21
126	5 Prong	.21
310	6 Prong	.24

JUNIOR COIL FORMS

1 1/4" in diameter. 2 1/2" winding space.

No.	List	Net
594	4 Prong	\$0.15
595	5 Prong	.18
596	6 Prong	.18

LO-COIL KITS



SENIOR

Wound on 1 1/2" diameter coil forms. Covers wave-length of 16 to 200 meters when tuned with .0014 mfd. condenser. Each kit has 4 coils.

No.	List	Net
222	4 Prong 2 Windings	\$1.65
918	6 Prong 3 Windings	2.10
916	5 Prong 2 Windings	1.98

JUNIOR

Wound on 1 1/4" diameter forms. Wave-length range, 11 to 210 meters with .0014 mfd. condenser. 4 coils to kit.

No.	List	Net
384	4 Prong 2 Windings	\$1.20
356	6 Prong 3 Windings	1.74

SUPERHETERODYNE

Consists of 8 coils. 4 detector coils and 4 oscillator coils to track with I.F. transformers tuned 465 KC. Wave-length range 13 to 200 meters with .00014 mfd. condenser.

No. 397Net \$3.30

BUD RADIO PRODUCTS

BUD FLOOR STANDS FOR CRYSTAL, VELOCITY & DYNAMIC MICROPHONES



Insulated against rattling or dropping of adjustable stems. Positive and smooth acting chuck type lock. Telescoping stems finished in polished chromium plate. Two section stands adjustable 35" to 66". Three section 24" to 66". Heavy cast bases are finished in durable black crackle enamel. Adjustable stem has 5/8-27 thread. On stands supplied with ring, the ring is 6" dia. with E-Z hooks finished in black crackle enamel.

- No. 585—Net Price \$7.20
Two section; modernistic base, base dia. 12". Weight 12 lbs.
- No. 587—Net Price \$8.10
Three section; modernistic, 12" dia. base. Weight 12 lbs.
- No. 583—Net Price \$7.50
Three sections; tripod base, leg spread 17". Weight 9 1/2 lbs.
- No. 586—Net Price \$6.00
Two section; tripod base, leg spread 17". Weight 9 1/2 lbs.
- No. 584—Net Price \$5.10
Two section; modernistic 10" diameter base. Weight 8 1/2 lbs.
- No. 6753—6" Dia. Ring with 8 springs to fit stands listed above. Net Price \$0.90

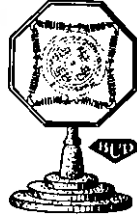
DESK & BANQUET STANDS

Ruggedly built for use on tables, desks, pulpits, etc. Heavy cast base of modernistic design is finished in black crackle enamel and will not tip easily. Stems are chromium plated finish. Adjustable types have thumb nut locking device. Stem is threaded 5/8-27. Where rings are supplied, they are also finished in black crackle.

- No. 588—Net Price \$1.05
Height 6". Base Dia. 5". Weight 2 lbs.
- No. 589—Net Price \$1.35
Height 8". Base Dia. 6". Weight 3 1/4 lbs.
- No. 590—Net Price \$3.00
Height adjustable 10" to 16". Base Dia. 6". Weight 3 1/2 lbs.
- No. 803—Net Price \$3.90
Same as No. 590, complete with 6" microphone ring and 8 springs.
- No. 591—Net Price \$3.45
Height adjustable 13" to 22". Base Dia. 6". Weight 3 1/2 lbs.
- No. 802—Net Price \$4.35
Same as No. 591, complete with 6" microphone ring with 8 springs.



BUD DESK STANDS



These beautiful stands are preferred by most amateurs and are ideal for portable P.A. installations. Ruggedly constructed. Modernistic designed base casting. Black crackle finish.

- No. 817—Net Price \$1.35
Height 9". Base Dia. 5". 5" octagonal microphone ring.
- No. 818—Net Price \$1.65
Height 10". Base Dia. 6". 6" round microphone ring.
- No. 819—Net Price \$2.01
Height 13". Base Dia. 6". 6" diameter round microphone ring.

CARBON GRANULES



Carefully selected and highly polished. Acid treated.

Will stand 20% more current without burning. Highly sensitive. Vial contains enough carbon to repack four two button microphones.

- No. 410—Net Price \$0.45

MICROPHONE CABLE CLIP

Holds microphone cable parallel to stem. Made of spring steel and nickel plated. Fits around 1" dia. stem. Easily attached and adjusted.

- Cat. No. 599—Net Price \$0.06 ea.

CONE STAND-OFF INSULATORS



These glazed ceramic insulators fill all requirements for insulated mountings and supports. A type and size for any purpose. Jack types accommodate standard banana plugs.

REGULAR

Cat. No.	Height	Top Dia.	Base Dia.	Thread	Net Price
1-300	5/8"	7/8"	5/8"	6-32	\$0.06
1-301	1"	1 1/8"	3/4"	8-32	.09
1-302	1 1/2"	1 3/8"	1"	10-32	.12
1-303	2 3/4"	2 1/8"	1 1/4"	10-32	.15

JACK TYPE

1-304	1"	1 1/2"	3/4"	8-32	.12
1-305	1 1/2"	1 7/8"	1"	10-32	.15
1-306	2 3/4"	2 1/8"	1 1/4"	10-32	.21

CONE FEED-THRU INSULATORS



Excellent insulation when bringing high voltage and R.F. leads through panels, chassis, etc. Glazed Ceramic.

Cat. No.	Top Height	Bottom Height	Mounting Hole Dia.	Net Price
1-435	5/8"	3/8"	11/32"	\$0.07
1-436	1"	5/8"	3/8"	.12
1-437	1 1/2"	7/8"	9/16"	.15
1-438	2 3/4"	1 7/8"	1 1/8"	.30

JACK TYPE

1-453	1"	5/8"	1 1/8"	.15
1-454	1 1/2"	3/4"	1 1/8"	.18
1-455	2 3/4"	1 3/8"	1 1/8"	.33

NET

PHONE & MICROPHONE PLUGS

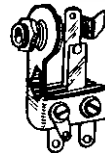


- No. 230—Net Price \$0.24
Duplex; takes 2 cords with tips; bakelite handle.
- No. 282—Net Price \$0.39
Same as above with shielded metal handle.
- No. 1057—Net Price \$0.45
Three way mike plug; bakelite handle.
- No. 284—Net Price \$0.66
Same as No. 1057 with shielded metal handle.

PORTABLE PHONE & MICROPHONE CONNECTORS

- No. 1039—Net Price \$0.30
Two way; fits No. 230 plug; bakelite handle.
- No. 279—Net Price \$0.54
Same as No. 1039 with shielded metal handle.
- No. 1059—Net Price \$0.45
Three way; fits No. 1057 mike plug; bakelite handle.
- No. 283—Net Price \$0.66
Same as No. 1059 with shielded metal handle.
- No. 1058—Net Price \$0.30
Three way microphone jack for panel mounting.
- No. 1038—Net Price \$0.18
Two way microphone jack for panel mounting.

ALL PURPOSE JACKS



Small in size, highly efficient. Nickel silver springs for equal, positive tension at all times. Contacts are pure silver. Large bakelite separators overlap springs for long leakage path. Supplied with insulating washers.

Cat. No.	Type	Net
1324	Open Circuit	\$0.21
1325	Single Closed	.27
1326	3 Circuit Mic.	.30
1327	Double Closed	.36

JACK



Small, compact spring brass contacts, nickel plated. Supplied with insulating washers.

- No. 232—Open Circuit. Net Price \$0.18

BUD GRID CLIPS



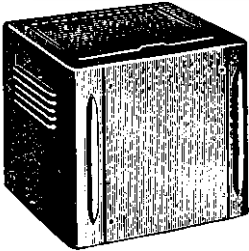
For transmitter, rectifier, metal and glass type tubes. Made from heavy gauge spring brass, cadmium plated.

No.	Type Tube	Net Price
490	Transmitting. 10 in pkg. Each	\$0.05
107	Glass. 100 in pkg. Per C	.09
108	Metal. 100 in pkg. Per C	.09

ICA INSULINE ICA

RADIO PRODUCTS

ICA DE LUXE HINGED STEEL CABINETS



The cabinets have rounded corners with specially designed Chrome plated "Air-Gate" ventilators on sides; and vertical Chrome Plated Trim moulding on front. Modern grille type ventilators are provided on the back panels which also have an opening on the bottom to allow for leads, cable connections, etc.

Bottoms have 4 embossed feet. Finished in a beautiful Marine Gray Ripple Enamel.

No.	H.	L.	D.	Panel Size	Net
3860	8"	10"	8"	8" x 8"	\$3.15
3861	8"	12"	8"	8" x 10"	3.30
3862	8"	14"	8"	8" x 12"	3.95
3863	12"	20"	12"	12" x 18"	5.85

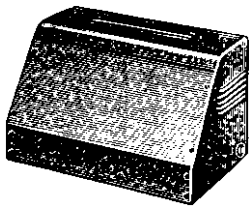
ICA DE LUXE SLOPING PANEL CABINETS

The top corners are rounded and trimmed with a beautiful red striped chrome trim. The sides of the cabinets have the beautiful "Air-Gate" Chrome ventilators.

The front panel is removable so that the chassis can be attached to it and used as one unit.

Beautifully finished in Marine Gray Ripple Enamel.

No.	H.	W.	D.	Net
3990	8"	8"	8"	\$2.85
3991	8"	10"	8"	3.00
3992	8"	14"	8"	3.30
3993	12"	18"	8"	5.25



ICA MULTI-USE METAL CABINETS

An ideal unit for public address systems, transmitters, receivers, test equipment, etc. Has rounded corners on front of Cabinet. Trimmed with handsome red striped chrome trim moulding. Equipped with hinge doors, and nickel brass snap locks. Completely assembled, ready for use. Finished in Black or Marine Gray Ripple Enamel. Black will be supplied unless Gray is specified.

SINGLE UNITS

No.	Net
3880	\$7.50

Size 10 1/2" x 21" x 13 1/2" Deep.

Door on top only. Panel size 8 3/4" x 19".

No. 3881	9.00
Size 14" x 21" x 13 1/2" Deep.	
Door on top only. Panel size 12 1/4" x 19".	

DOUBLE UNIT

No. 3882	11.85
Size 19 1/4" x 21" x 13 1/2" Deep.	
Doors on top and rear. Panel size 17 1/2" x 19".	

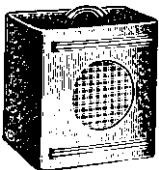
TRIPLE UNIT

No. 3883	13.20
Size 28" x 21" x 13 1/2" Deep.	
Door on rear panel only. Panel size 26 1/4" x 19".	

QUADRUPLE UNIT

No. 3884	14.85
Size 36 3/4" x 21" x 13 1/2" Deep.	
Door on rear panel only. Panel size 35" x 19".	

ICA DE LUXE SPEAKER CABINETS

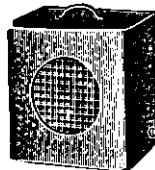


Trimmed with red striped chrome trim. Has beautiful red striped chrome handle on top. Marine Gray Ripple finish.

No.	Size	Hole Size	Speaker Size	Net
3935	10 x 10 x 6"	4 3/8"	6"	\$3.15
3936	12 x 12 x 7"	6 1/2"	8"	3.90
3937	14 x 14 x 8"	9"	10"	5.10
3938	16 x 16 x 8"	11"	12"	6.60

ICA STANDARD SPEAKER CABINETS

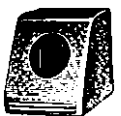
Finished in Black Ripple Enamel with plain back steel handles to match.



No.	Size	Size Hole	Size Speaker	Net
3942	10 x 10 x 6"	4 3/8"	6"	\$2.25
3943	12 x 12 x 7"	6 1/2"	8"	2.76
3944	14 x 14 x 8"	9"	10"	3.60
3945	16 x 16 x 8"	11"	12"	4.80

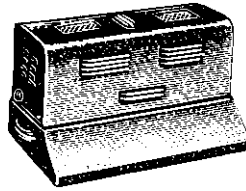
ICA DE LUXE METER CASES

Finished in Marine Gray Ripple Enamel with rounded tops and trimmed with beautiful red striped Chrome band. Available for 2" or 3" meters.



No.	D.	W.	H.	Meter Hole	Net
3995	4 1/4"	4 1/8"	4 1/2"	2 3/8"	\$9.00
3996	4 1/4"	4 1/8"	4 1/2"	2 3/8"	.90

ICA DE LUXE SLOPING CHASSIS AMPLIFIER UNITS



Chassis are sloped and are equipped with beautiful chrome trimmed handles. Slope provides ample space for mounting instruments.

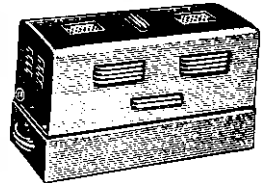
The top covers have beautiful Chrome Plated "Air-Gate" Ventilators with red striped chrome trim. Supplied with ventilating louvres on sides and back. Have raised rectangular screen opening on the tops, embellished with red striped chrome moulding. Marine Gray Ripple finish.

No.	Overall Size	Chassis Bottom	Chassis Height	Slope Size	Net
3962	7 x 17 x 9 1/2"	10 x 17"	3 1/2"	4"	\$4.17
3963	10 x 14 x 9 1/2"	13 x 14"	3 1/2"	4"	4.50
3964	10 x 17 x 9 1/2"	13 x 17"	3 1/2"	4"	4.77

ICA DE LUXE AMPLIFIER FOUNDATION CHASSIS

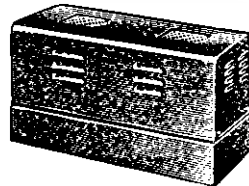
Top covers have rounded corners and fronts are embellished with the newly created Chrome plated "Air-Gate" Ventilators. Additional ventilation is obtained through the raised screen openings on the top as well as louvres on both sides and back.

Have beautiful red striped Chrome mouldings and Chrome handles. Finished in Marine Gray Ripple Enamel.



No.	Size	Height of Chassis	Net
3791	5 1/2" x 10" x 9"	3"	\$2.70
3972	8" x 12" x 9"	3"	3.57
3973	7" x 17" x 9"	3"	3.57
3974	10" x 14" x 9"	3"	3.90
3975	10" x 17" x 9"	3"	4.17

ICA STANDARD AMPLIFIER FOUNDATION UNITS



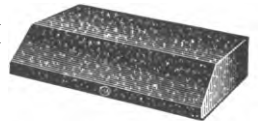
Top covers have rounded corners. The front, sides and back are equipped with louvre ventilators. The tops have raised screen openings for additional ventilation.

Finished in beautiful Marine Gray Ripple Enamel.

No.	Size	Height of Chassis	Net
3880	5 1/2" x 10" x 9"	3"	\$1.53
3881	8" x 12" x 9"	3"	2.25
3982	7" x 17" x 9"	3"	2.25
3983	10" x 14" x 9"	3"	2.55
3984	10" x 17" x 9"	3"	2.70

ICA SLOPING FRONT CHASSIS

Has a sloping front for mounting instruments and which enhances the appearance of any unit on which it is used. Has the effect of a beautiful open cabinet receiver, or amplifier unit, when used without top covers. Made of Heavy Duty Steel, finished in Black Ripple Enamel.



No.	Top of Base	Bottom of Base	Height	Size of Slope	Net
3320	7 x 17"	10 x 17"	3 1/2"	4"	\$1.50
3321	10 x 14"	13 x 14"	3 1/2"	4"	1.65
3322	10 x 17"	13 x 17"	3 1/2"	4"	1.80

ICA

INSULINE

RADIO PRODUCTS

ICA

ICA 4-in-1 NEUTRALIZING TOOLS, SCREW DRIVER and WRENCH
Made of Fenoline Fully Insulated



No. 1019—Complete as shown Net \$39
1020—Majestic Attachment for #101915
1021—Crosley Attachment for #1019..... .15

ICA 5-in-1 NEUTRALIZING AND COMPENSATING TOOL

Same features as the 4-in-1 tool described above with an additional all metal screw driver.



No. 1022 Net \$60

ICA 3-in-1 NEUTRALIZING TOOL

With Metal Nibs
Made of Sturdy Fenoline Material, with Brass Nickel Plated Metal Nibs. Unbreakable.
No. 988 Net \$60



INSULATED NEUTRALIZING WRENCHES



Hexed—Full Length
For Philco, Majestic and Other Receivers
 $\frac{3}{8}$ " Diameter
No. 985—6" long Net \$12
No. 986—8" long Net .15

ICA Alignment Tool for Philco Receivers For Air Trimmer Sets



Has specially designed metal clip for air trimmers. Made of narrow fine rod, $\frac{3}{32}$ " diam. by 6" long.
No. 1033 Net \$24

ICA Insulated Adjustable Neutralizing Tool's



Absolutely no metal parts. Screw driver slides into inside of neutralizing wrench.
No. 990—Extending from 6" to 11" Net \$39
No. 991—Extending from 10" to 18" Net .51

ICA ALL PURPOSE ALIGNING TOOL



Handle is of $\frac{3}{8}$ " Fenoline. End has Socket Screw Driver for neutralizing all iron core tuning systems.
No. 1002 Net \$30

ICA BONE FIBRE SCREW DRIVER



Made entirely of $\frac{1}{16}$ " bone fibre rod with a sturdy blade.
No. 1029 Net \$27

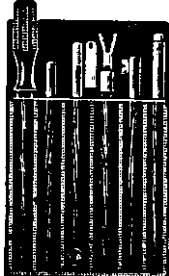
ICA DE LUXE NEUTRALIZING and ALIGNING TOOL KIT

Complete for Every Service Need

Consists of fourteen tools, most of which telescope into one another, forming six units when assembled into the attractive black leatherette case.

The complete kit in carrying case can be kept in the pocket. Tools complete with carrying case.

No. 994 Net \$3.00



ICA ALIGNMENT WRENCH
For RCA, PHILCO, etc.



Used on all makes Air Trimmer. Made of $\frac{5}{8}$ " Fenoline Rod—8 $\frac{1}{2}$ " long—one end has hollow shaft hexagon wrench—other end has an especially shaped hook.
No. 1008 Net \$75

ICA NARROW SHAFT ALIGNMENT TOOL



RCA—Zenith—etc. $\frac{1}{8}$ " Bone Fibre Rod.
No. 987 Net \$30

ICA NEUTRALIZING TOOL For Push Button Tuners



The Socket is $\frac{3}{32}$ " in diameter, and contains a screw driver blade.
No. 1003 Net \$30

ICA Fenoline Neutralizing Screw Drivers



Made of Fenoline. Strong and sturdy, completely insulated for neutralizing and aligning coils, condensers, receivers, etc.
No. 1028 Net \$18

ICA BONE FIBRE SCREW DRIVER



Double Edged—No Metal—Fully Insulated
Made of $\frac{1}{4}$ " Bone Fibre Rod
No. 1039 Net \$21

ICA ALIGNMENT TOOLS For R.C.A. Receivers



Narrow shaft Neutralizing Tools made of Bone Fibre— $\frac{3}{32}$ " Wide. Has screw nib inserted in Brass Collar on end.
No. 1015 Net \$45

ICA SET TRIMMER NEUTRALIZING TOOLS FOR PHILCO, ZENITH, RCA, Etc.



Fits the smallest size trimmer condensers. Trimmer end is $\frac{3}{32}$ " diam. to fit $\frac{1}{4}$ " hole.
No. 992—6" long Net \$45
No. 933—10" long Net .60

ICA TRIMMER SCREW DRIVER
With Transparent Amber Unbreakable Handle



A sturdy trimmer screw driver made of $\frac{3}{32}$ " Fibre shank. Fits into $\frac{1}{4}$ " diameter hole for adjusting and aligning trimmer condensers.
No. 1009 Net \$60

ICA Complete Neutralizing Tool Kit



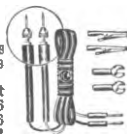
The kit consists of one of each of the following ICA tools, described herein:—No's 383, 1008, 987, 1015, 976, 996, 992, 996, 990, 1024, 1019, 1026, 1022, 1009, 1013, 1028, 1039, 1029, 1033, 935, 937.
Total list of tools if purchased individually \$15.40.
No. 995—Kit, Complete with Carrying Case. Net \$5.50

ICA PHONO, NEEDLE POINT TEST LEADS

With Slim Bone-Fibre Handles and Flexible Wire

Flexible, rubber-covered, kinkless wire, 50" long. Fenoline handles 4" long.

No. 382—With Phone Tips Net \$36
381—With Spade Terminals..... .36
379—With Alligator Clips42



ICA DE LUXE EXTRA-FLEXIBLE TEST LEADS

Slim Handles & Solderless Plugs
50" Extra-Flexible Test Leads with 4" Bone Fibre handles. New non-kinking, rubber insulated wire.

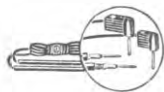
No. 355—With Phone Tips Net \$36
356—With Spade Terminals .36



ICA PENCIL TYPE TEST LEADS

Finger-Grip Molded Tips

All connections are properly soldered providing low resistance connections vital in all precision tests. The Molded Finger Grip Tips are provided with rivets for easy renewal of wire. Length of test leads is 65". Handles are 5" long.
No. 373 Net \$75



ICA HEAVY DUTY LABORATORY TEST LEADS

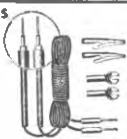
Long Slim Handles and Removable Phone Needle Chuck Extra long slim red and black handles knurled at end for finger grip ease. Handles 6" long. 50" of heavy duty kinkless, flexible rubber wire.
No. 400—With knurled grip

handle Insulated solderless plug \$66
388—With alligator clip57
391—With spade lugs54
392—With non insulated phone tips54

ICA Slim Handle Test Leads

Made of sturdy Bone-Fibre Handles. 50" of Kinkless Live Rubber wire. Handles 6" Long—Overall Length 7". Prods have pointed large phone tip plugs.

No. 313—Phone Tips on end..... \$54
314—Spade Lugs on end..... .54
315—Alligator Clips on end .60



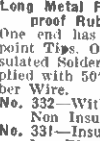
ICA HIGH VOLTAGE HEAVY DUTY TEST LEADS

10,000 VOLTS

Made of large diameter Bakelite handles with guards to prevent fingers from slipping. Cable 18 gauge, G7/36 tinned copper, with heavy walled rubber covering. Prods 6" long with 50" red and black cable and 2" Bakelite Prods on either end.
No. 475 Net \$1.50 per pair

ICA Unbreakable Test Prods

Long Metal Prod with Shock-proof Rubber Handles
One end has standard needle point Tips. Other end has Insulated Solderless Plugs. Supplied with 50" Kinkless Rubber Wire.
No. 332—With Phone Tips Non Insulated . Net \$39
No. 331—Insulated Solderless Plug Ends. Net 45



ICA ALL PURPOSE TEST LEADS

Made of sturdy Bone Fibre Tubing. Slim handles, 6" long. Over length 7 $\frac{1}{4}$ ". Rubber covered wire 50" long.

With Interchangeable Tips
No. 312—Complete Kit \$50

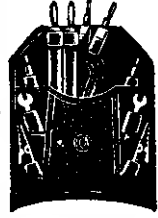


ICA ALL-PURPOSE TEST LEAD KIT COMPLETE FOR EVERY TESTING NEED

Equipped with one pair of test leads which have 60" of red and black kinkless live rubber wire. One end has insulated removable banana-type plugs.

Included in this test kit:
1 pr. test leads.
1 pr. insulated alligator clips—red and black.
1 pr. insulated spade plugs—red and black.
1 pr. insulated needle points—red and black.

No. 1005—Kit, complete \$13.35



ICA INSULINE ICA

RADIO PRODUCTS

ICA SHEARING PUNCHES

Now! No Hammering Necessary to Punch Chassis Holes.



Shearing is accomplished with a wrench which forces shear punch into die. Made of High Grade Steel.

No.	Size of Hole	Net
725	3/4"	\$1.71
727	1 1/8"	2.10
728	1 3/8"	2.10
729	1 1/4"	2.10
730	1 1/2"	2.31

ICA SELF-CENTERING PUNCHES

Punches clean-cut round holes in sheet metal, chassis, etc. Ideal for condenser and socket holes, auto antenna installations, etc.



No.	For	Hole	Net
755	For	3/4" Hole	\$1.80
756	For	7/8" Hole	1.80
757	For	1 1/8" Hole	2.10
759	For	1 1/4" Hole	2.10
758	For	1 1/2" Hole	2.10

SOCKET PUNCH FOR AMPHENOL OR CLIPTITE TYPE SOCKETS

Punches a keyed hole in chassis to accommodate the special sockets.



No.	Size	Net
765	Small size	\$3.00
	1.170" diameter	
766	Large size	3.00
	1.320" diameter	

ICA Improved All-Purpose Circle Cutter

Will Cut Holes from 3/4 to 8 Inches

Cutting bar holder is 1" in diameter and also accommodates a centering drill or any size pilot pin. Cutting bar is 3/4" square and is arranged to hold a 1/8" high speed cutting bit.



No. 775 Net \$2.40

ICA Universal Multi-Purpose Cutting Tool

This handy tool can be used for counter-sinking, beading, drilling or cutting holes. Equipped with 1/8" holes from 1/16" diameter up to 3" diameter. Can be used either in drill press or hand brace. Also acts as a boring tool when used in a lathe.



No. 780 Net \$1.65

ICA SQUARE HOLE SHEARING PUNCH

This new punch permits the cutting of any size odd-shape hole (square rectangular, hexagon, oblong, etc.) on any size panel or chassis. Good for Enlarging or punching TRANSFORMER Holes.

No. 790 Net \$5.70



ICA SOLDERING IRONS



ICA Highest Quality Soldering Irons are "Best By Test". Each model is submitted to the most severe tests and results prove conclusively that ICA irons are equal, if not superior, to any soldering iron on the market today.

60 WATT IRON

No. 1960-A—110-115 Volts Net \$2.25

85 WATT IRON

No. 1962-A—110-115 Volts Net \$2.70

115 WATT IRON

No. 1961-A—110-115 Volts Net \$3.30

ICA Unbreakable Volume Control Wrench



Socket is 1 1/8" diameter.

No. 937 Net \$6.00

ICA UNBREAKABLE "TURN-TITE" SOCKET WRENCHES



7 1/2" long. Handle is of ribbed shockproof unbreakable material.

No.	Socket	Net
940	1/8" socket	\$36
941	1/4"	36
942	3/8"	36
943	1/2"	36
944	5/8"	36
945	3/4"	36
946	7/8"	36
949	(Set of 7 Wrenches as above)	36

ICA "TURN-TITE" SOCKET WRENCHES



HOLLOW SHAFTS

Made of hardened steel, cadmium plated, with sturdy Black japanned wooden handles.

6 Inches Long		9 Inches Long	
No.	Net	No.	Net
898	1/8" \$18	900	1/8" \$21
890	1/4" 18	894	1/4" 21
891	3/8" 18	895	3/8" 21
892	1/2" 18	896	1/2" 21
893	5/8" 18	897	5/8" 21
899	3/4" 18	901	3/4" 21
910	Set of 6 Wrenches 1.08	911	Set of 6 Wrenches 1.26

ICA AMBER COLORED UNBREAKABLE MIDGET SCREW DRIVER



Particularly shaped to fit into set screws of knobs. Complete with pocket clip. Length 4 5/8".

No. 1013 Net \$0.09
No. 1017—Length 6" Net .12

ICA GLOVE-TITE TUBE SHIELDS



No. 1720 TYPE A—For Dome type (ST-12 short).
No. 1720 Type C—With Ring, (ST-12 short).
No. 1722 TYPE B—For Dome type (ST-12 long).
No. 1722 Type C—With Ring (ST-12 long).
No. 1718 TYPE C—For Dome type (ST-12 med.).
No. 1721 TYPE D—For Dome type (ST-14).

All Types, each Net \$1.11

ICA G. T. and BANTAM TUBE SHIELDS

Designed for the new 1 1/2 Volt Bantam glass tubes or T9 Bulbs. Available with or without grid cap.

No.	Net
1729—G.T.—Shield	\$.07 1/2
1726—Shielded cap—one piece—grounds automatically	\$.07 1/2
1727—Shield complete with grid lead cap and ground clip	.11

ICA ALUMINUM TUBE SHIELD

For 55, 57, 58, etc. type tubes.

No.	Net
1708—1 1/4" mounting centers	\$.15
1709—1 1/2" mounting centers	.15

ICA 807 TUBE SHIELD

Designed for use with Transmitter Pentodes, Tetrodes, to prevent oscillation. Can also be used on RK 20, RK 39 and 804 tubes.



No.	Net
1545	\$.24

ICA GRID CAP SHIELDS

(For Metal Tubes)

Fits firmly over grid cap of metal tubes affording complete shielding. Slotted cap permits passage of grid wire.

No.	Net
1552	\$.05

ICA SOLDERING IRON TIPS

For American Beauty Irons

Made of special copper alloy. Ends are hot tinned. For replacement in American Beauty Irons and other makes that have the same specification for size.

No.	Length	Diam.	Net
1937	4 5/8"	3/8"	\$.60
1974	1 3/8"	1/8"	.30

ICA RIVET AND EYELET PUNCH SET

A Universal Tool that can be used for either riveting or eyeletting. Holder is made of cast iron with hexagonal sides, thus permitting the tool to be placed in a vise without slipping.

No. 785—Complete with ample assortment of eyelets and rivets. Net \$1.35

RIVET & EYELET ASSORTMENT

Additional eyelets and rivets can be purchased separately.
No. 5265—(Assortment of 100) Net \$3.30

RIVET & EYELET SETTING TOOL

No. 786 Net \$4.5



ICA INSULINE ICA

RADIO PRODUCTS

ICA Bakelite Double Phone Plug



No. 24B—BlackNet \$.24
No. 24R—RedNet .24

ICA Midget Phone Plug

Overall length— $2\frac{1}{2}$ " Diameter of barrel $\frac{1}{8}$ "



No. 29B—BlackNet \$.24
No. 29R—RedNet .24

ICA Stubby Shielded Phone Plug



Barrel Measures $\frac{1}{4}$ " diameter x $1\frac{1}{2}$ " long.
No. 27.....Net \$.30

ICA Midget Shielded Phone Plug

Diameter of Barrel $\frac{3}{16}$ " Overall size of Plug $2\frac{1}{4}$ "
No. 30.....Net \$.30



ICA Bakelite Portable Jacks

Single Open Circuit



No. 1911—Overall Size $1\frac{1}{2}$ " Diameter $\frac{3}{4}$ "Net \$.30

ICA Shielded Portable Jack

Single Open Circuit



No. 1913— $2\frac{1}{4}$ " Long, $\frac{1}{2}$ " DiameterNet \$.54

ICA Panel Mounting Jacks

Small and Compact



No. 325—Single Open Circuit...\$.18
1905—3-Way Microphone Jack .30

ICA Single Open Circuit Jack

No. 362.....Net \$.18
Single Closed Circuit
No. 363.....Net \$.21



ICA Insulated Binding Posts with Jack for Banana Type Plug

Length $1\frac{1}{2}$ " overall when top is up. Extends $\frac{5}{8}$ " above panel when top is screwed down. Fitted with $8/32$ screw $\frac{1}{8}$ " long, and two hex nuts.
No. Net
622—Red\$.09
623—Black09



ICA Bakelite Binding Posts

$\frac{1}{8}$ " Diameter Head with Brass Threaded insert, Nickel Plated Screw and Knurled nut.
No. Net
617—Red\$.06
618—Black06



ICA Insulated Solderless Plug

$2\frac{1}{4}$ " long—fits all standard phone tip jacks.
No. 885B—BlackNet \$.07 $\frac{1}{2}$
No. 885R—RedNet .07 $\frac{1}{2}$



ICA Sr. Solderless Plugs

$1\frac{1}{2}$ " overall length.
No. 358
Net \$4.80 per 100



ICA Brass Tip Jacks

Nickel Plated
No. 357
Net \$4.80 per 100



ICA Insulated Needle Point Tip Plug

886B — Black Net \$.06
886R — Red Net \$.06



ICA Alligator Clips

Good firm grip. Ideal for work in tight places. Overall length $5\frac{1}{2}$ ".
No. 364Net \$.04 $\frac{1}{2}$



ICA Insulated Alligator Clips

No. 884B—Black Net \$.09
No. 884R—Red Net .09



ICA Insulated Double Handle Alligator Clips

No. Net
925—Red\$.12
926—Black12



ICA Insulated Solderless Split Banana Plugs

Set screw provided at side of barrel to fasten screw without soldering.



$1\frac{1}{2}$ " Long
No. 883B—Black Net \$.09
No. 883R—Red Net .09
 $2\frac{1}{2}$ " Long
With sleeve covering set screws.
No. 882B—Black Net \$.15
No. 882R—RedNet .15
4" Long
With sleeve covering set screws.
No. 881B—BlackNet \$.18
No. 881R—RedNet .18

ICA Insulated Bushings

No. 670—Black $\frac{1}{8}$ " Hole $\frac{3}{8}$ " Diam. $\frac{3}{8}$ " Long...Net \$.05
No. 671—Red $\frac{1}{8}$ " Hole $\frac{3}{8}$ " Diam. $\frac{3}{8}$ " Long...Net .05
No. 672—Black $\frac{1}{4}$ " Hole $\frac{1}{2}$ " Diam. $\frac{1}{2}$ " Long...Net .06
No. 673—Red $\frac{1}{4}$ " Hole $\frac{1}{2}$ " Diam. $\frac{1}{2}$ " Long...Net .06



ICA Insulated Tip Jacks

With receptacle for standard phone tips.
No. Net
889B—Black\$.06
889R—Red06



Insulated Banana Jacks
With receptacle for banana plugs.
No. 888B—BlackNet \$.06
No. 888R—RedNet .06

ICA Bakelite Insulated Tip Jacks
Moulded of Low-Loss Bakelite



No. Net
1889—Black\$.07 $\frac{1}{2}$
1890—Red07 $\frac{1}{2}$

Bakelite Banana Type Jacks

No. 1891—Black Net \$.07 $\frac{1}{2}$
No. 1892—Red Net .07 $\frac{1}{2}$

Giant Insulated Transmitting Plugs and Jacks

Plug-in type with positive grip contacts. Equipped with heavy insulated threaded heads and handles for safe handling on high R.F. currents.



Handle 1,000 Volts at 10 Amps.
No. Net
450—Medium Plug-RED\$.15
451—Medium Plug-BLACK15
452—Medium Jack-RED33
453—Medium Jack-BLACK33
454—Giant Plug-RED24
455—Giant Plug-BLACK24
456—Giant Jack-RED36
457—Giant Jack-BLACK36

ICA Split Banana Plugs

For positive and durable spring action. Allows spring to fit into jack, cannot bend out of shape — Complete with two nuts.
No. 403Net \$.05



ICA Transmitting Banana Jacks

No. Net
402—Nickel Plated Brass\$.05
1891—Insulated Black Bakelite .07 $\frac{1}{2}$
1892—Insulated Red Bakelite .07 $\frac{1}{2}$



ICA Heavy Duty Transmitting Jacks and Plugs

No. 409
Big Boy Jack
Net \$.24
No. 410
Big Boy Plug
Net \$.09 ea.



ICA Fuse Mountings

No. Net
2340—Flush Mounting\$.09
2341—Panel Type09



ICA Insulated Midget Phone Tip Plug

Fits all standard jacks. Tip is threaded. Overall length $1\frac{1}{8}$ ".
No. Net
876R—Black\$.06
876B—Black06
ICA Midget Sharp Point Threaded Phone Tip Non-Insulated
No. 365Net \$.04 $\frac{1}{2}$



ICA Feneline Phono. Needle Point Test Prods With Removable Chuck

5 Inch Test Prod
No. 389R—RedNet \$.18
No. 389B—Black Net .18
7 Inch Test Prod
No. 334R—Red Net \$.21
No. 334B—Black Net .21



ICA Solderless Plug Test Prods With Solderless Plug Chuck

$5\frac{1}{2}$ Inch Long Prods
No. 390R—RedNet \$.18
No. 390B—Black Net .18
 $7\frac{1}{4}$ Inch Long Prods
No. 335R—RedNet \$.21
No. 335B—Black Net .21



High Voltage ICA Heavy Duty Bakelite Test Prod Handles

No. 480—Black Bakelite Net \$.51



High Voltage Heavy Duty Bakelite Test Prods

Measures 2" overall.
No. Net
485—Black Bakelite \$.18



ICA Grip-Rite Molded Phone Tip Plug

Replacement for ICA and Weston—as well as other make Test Leads.
No. Net
868—Red\$.18
869—Black18



ICA Rubber Insulated Grid Caps

For Receiving Tubes
For 866 Type Tubes
No. Net
870—With leads .\$.09
871—Without leads07
For Receiving Tubes
872—With 12" lead05
873—Without lead .04
For New Metal Tubes
874—With 12" lead05
875—Without lead .04



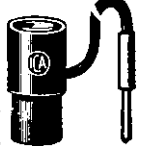
ICA Feneline Insulated Grid Caps

Supplied with 12" wire.
For Standard Glass Receiving Tubes
No. Net
680—Red\$.06
681—Black06
For 866 Transmitting Tubes
No. 682—RedNet \$.12
No. 683—Black Net .12



ICA Insulated Dual Grid Caps

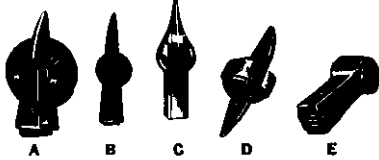
For Metal and Glass Tubes
Equipped with 12" lead
No. 877—Black Net \$.12
No. 878—Red Net \$.12



ICA INSULINE ICA

RADIO PRODUCTS

RADIO REPLACEMENT AND INSTRUMENT KNOBS



No.	Type	Color	Size	Net Each	Net Price Lots of 10
1125	A	Black	1 1/4"	\$.08	\$.78
1127	A	Red	1 1/4"	.09	.90
1126	B	Black	2 1/4"	.09	.90
1128	B	Red	2 1/4"	.11	1.08
1155	C	Black	1 1/4"	.09	.90
1156	C	Black	2 1/4"	.11	1.08
1161	C	Red	1 1/4"	.11	1.08
1162	C	Red	2 1/4"	.12	1.20
1143	D	Black	2 3/4"	.09	.90
1144	D	Walnut	2 3/4"	.11	1.08
1153	E	Black	2 3/4"	.09	.90
1154	E	Walnut	2 3/4"	.11	1.08



No.	Type	Color	Size	Net Each	Net Price Lots of 10
1270	F	Black	1 1/2"	\$.12	\$1.20
1271	F	Black	2 1/2"	.15	1.50
1070	G	Walnut	3/4" x 3/8"	.08	.72
1071	G	Less Pointer	3/4" x 3/8"	.08	.72
1087	H	Walnut	1"	.08	.72
1088	H	Black	1"	.08	.72
1151	I	Walnut	1 3/8"	.09	.90
1152	I	Walnut	1"	.09	.90



No.	Type	Color	Size	Net Each	Net Price Lots of 10
248	J	Black	1"	\$.08	\$.72
249	J	Black	1 1/2"	.09	.90
1076	K	Walnut	1 3/8"	.08	.72
1080	K	Walnut	1"	.09	.90
1049	L	Walnut	13/16"	.06	.60
1050	L	Walnut	1"	.08	.72
1174	M	Black	15/16"	.06	.60
1089	N	Walnut	13/16"	.08	.72
1090	N	Walnut	1"	.09	.84



No.	Type	Color	Size	Net Each	Net Price Lots of 10
1072	O	Walnut	13/16"	\$.08	\$.72
1073	O	Walnut	1 1/2"	.08	.72
1081	P	Black	1 1/2"	.08	.72
1082	P	Red	1 1/2"	.08	.72
1083	P	Green	1 1/2"	.08	.72
1084	P	Brown	1 1/2"	.08	.72
1085	P	White	1 1/2"	.08	.72
1116	Q	Walnut	3/8"	.08	.72
1117	Q	Walnut	1"	.09	.84
1135	R	Walnut	3/8"	.06	.60
1136	R	Walnut	3/8"	.08	.72

ICA FINGER-GRIP POINTER KNOBS

Moulded of black bakelite with 1/4" hole. Pointer type knobs have white indicators, flange type knobs have white indicating line. With 1/4" Brass Inserts

TYPE A—With Pointer
No. 1166—1 1/4" Net \$.27 No. 1168—1 1/2" Net \$.27
No. 1170—2 3/4" Net \$.39

TYPE A—LESS POINTER
No. 1165—1 1/4" Net \$.21 No. 1167—1 1/2" Net \$.27
No. 1169—2 3/4" Net \$.33

TYPE B—WITH FLANGE
No. 1171—2-1/16" Net \$.33 No. 1172—3" Net \$.42

ICA CHROME SILVER DIALS WITH FINGER GRIP FLANGE KNOBS

Beautiful dial plates accurately Etcho-engraved with black numerals and calibrations.

No.	Size	Degrees	Calibr.	Net
2170	2 1/2"	325	0-100	\$.84
2171	2 3/4"	180	0-100	.84
2168	4"	325	0-100	1.20
2169	4"	180	0-100	1.20

ICA NEW VERNIER DIAL

Satin silver finish. Marker calibrated at 0-100 in 180 degrees. Complete with tuning knob for receivers or transmitters.

No.	2205	2206	
2205	2 1/2" Diam.	.....	Net \$.90
2206	4" Diam.	.....	Net 1.20

ICA MINIATURE DIALS

1 1/2" Diameter
Beautiful Chrome Silver dials with black etched numerals. Finger grip black knob. Only 1 1/2" Diameter. Fit 3/8" Shafts.

No.	2154	2165		
2154	0-10	180	.....	Net \$.39
2165	0-10	270	.....	Net .39

ICA CHROME SILVER DIAL PLATES

Attractive grain satin finish. Black Etcho Engraving on Chrome Silver Background Plates.

No.	Degrees Dial	Calibr.	Net
2294	180	2" 0-100	\$.30
2295	325	2" 0-100	.30
2296	180	3 1/4" 0-100	.51
2297	180	3 1/4" 0-100	.51
2298	180	4" 0-100	.60
2299	325	4" 0-100	.60

ICA BRASS BLACK SATIN FINISH DIAL PLATES

With Etched Silver Numerals

No.	Degrees Dial	Calibr.	Net
2230	325	3 1/4" 0-100	\$.21
2231	180	3 1/4" 100-0	.21
2232	180	3 1/2" 0-100	.21
2233	180	2" 100-0	.15
2234	325	2" 0-100	.15
2235	325	2" 100-0	.15
2236	180	2" 0-100	.15

ICA INDICATING PLATES

Made of heavy brass with black satin background. Silvered "Etcho Graved" numerals and lettering. 1 3/32" center mounting hole. 1 1/2" Diameter.

No.	Marking	Net
2259	Marked 1 to 6	..... \$ .09
2450	Marked 1 to 5 (Volume)	..... .09
2451	Marked 1 to 5 (Tone)	..... .09
2452	Marked 1 to 10	..... .09
2453	Marked Off-On—with arrow	..... .09

ICA ETCHED DIAL PLATES

RECTANGULAR TYPES
Made of brass—finished in black with etched silver markings. Calibrated for 300 degree rotation. Marked 1 to 10. Will fit on 3/8" bushing. Size 2 1/4" x 1-11/16"

No.	Marking	Net
2244	Record	..... \$ .12
2245	Microphone	..... .12
2246	Gain	..... .12
2247	Tone	..... .12
2248	Plain (Calibrated but not worded)	..... \$ .12

ICA BAKELITE VERNIER DIAL

Encased in Black Bakelite. Requires one hole for condenser shaft—no gears to strip—no backlash. Universal Scale—0-100 and 100 to 0.

No.	2207	2208	
2207	3"	.....	Net \$.45
2208	4"	.....	Net .54

ICA TOGGLE SWITCHES

Furnished in Nickel or Antique Bronze. Capacity 1 Amp. 250 Volts. 3 Amps. 125 Volts. Mfd. by H & H for ICA.

No.	Shank Length	Description	Finish	Net
1230	3/8"	S.P.S.T.	Nickel	\$.24
1232	3/8"	S.P.S.T.	Bronze	.24
1233	3/8"	S.P.S.T.	Bronze	.27
1235	3/8"	S.P.S.T.	Nickel	.27
1236	3/8"	S.P.D.T.	Nickel	.33
1237	3/8"	S.P.D.T.	Nickel	.36
1238	3/8"	D.P.S.T.	Nickel	.45
1365	3/8"	D.P.D.T.	Nickel	.54
1366	3/8"	D.P.D.T.	Nickel	.60

"ON-OFF" PLATE
No. 1300—For Toggle Switch Net \$0.2/2

ICA ROTARY SWITCHES

Rated 3 Amps. at 125 Volts. Overall Length of shafts 1 1/2". Made by H & H for ICA. Underwriters Approved.

No.	Shank	Description	Net
1228	3/8"	S.P.S.T.	\$.27
1229	1"	S.P.S.T.	.33
1286	3/8"	S.P.D.T.	.33
1287	1"	S.P.D.T.	.42
1288	3/8"	D.P.D.T.	.60
1289	1"	D.P.D.T.	.69

ICA HI-POWER SWITCH PUSH BUTTON TYPE

When used in racks it is designed to break primary circuit when rack door is open. D.P.S.T. Made by H & H for ICA. Capacity 12 Amp. 125 Volt. Overall size 1 1/2" long. 3/4" wide. 3/8" high; 7/16" shank

No. 1280 Net \$1.20

ICA POWER SWITCH (Toggle Type)

Characteristics and dimensions same as No. 1280 described above.

No. 1281 Net \$.69

ICA SLIDER SWITCHES

Small — Compact
S.P.S.T. Switch furnished with chrome mounting plate. Switch dimensions 1 1/2" x 1/2" x 1/4".

No.	Net
1255	S-P.S.T. \$.21
1259	S-P.D.T. .... .24
1260	D-P.D.T. .... .27

ICA BAKELITE KNIFE SWITCHES

Hardware of brass, heavily nickel-plated. Mounted on highly polished bases of Black BAKELITE. Firm contact assured.

No.	Description	Net
1210	S.P.S.T.	\$.33
1217	S.P.D.T.	.39
1218	D.P.S.T.	.45
1219	D.P.D.T.	.51
1360	S.P.S.T.	.69
1220	S.P.S.T.	.78
1221	4-P.S.T.	.90
1222	4-P.D.T.	.96
1364	5-P.D.T.	1.35

MINIATURE BAKELITE SWITCHES

Can be mounted on panel or base. Black Bakelite base — highly nickel-plated brass parts with insulated handles.

No.	Base Size	Net
2223	S.P.S.T. 1 1/4" x 1 1/2"	\$.11
2224	S.P.D.T. 1 1/4" x 1 1/2"	.18
2225	D.P.D.T. 1 1/4" x 1 1/2"	.27
2226	D.P.S.T. 1 1/4" x 1"	.24

ICA VERNIER DIAL MARKER

Complete with self-tapping screws for mounting on metal, wood, bakelite or brass panels.

No.	2189	2190	2191	2192
2189	For 2 1/2" — 325°	Dials	.....	Net \$.18
2190	For 2 3/4" — 180°	Dials	.....	Net .18
2191	For 4" — 325°	Dials	.....	Net .18
2192	For 4" — 180°	Dials	.....	Net .18

ICA SINGLE LINE VERNIER INDICATOR

Black Etched on Chrome Silver
Supplied on 2205-6 Dials and can be used on all type chrome dial plates.

No. 2193 Net \$0.06

ICA INSULINE RADIO PRODUCTS

ICA TENNA-SCOPE

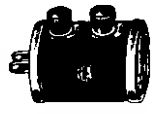


A new style built-in tuned radio antenna which may be connected to any radio without making circuit changes. Eliminates use of outside aerial and ground. Easily connected to radio receiver by any person.

No. 4380 Net \$1.05

ICA DYNATROL Line Noise Filter and Noiseless Aerial

A most efficient filter of line noises. Provides good clear radio reception from any radio. Also used as indoor aerial.



No. 132 Net \$9.00

ICA INSULTENNA Aerial Eliminator

A very compact unit containing condensers which give it a capacity of 75 feet of ordinary aerial wire.



No. 87 Net \$1.20

ICA DUPLEX FILTERVOLT

Eliminates noises caused by Electric Shavers, Refrigerators, Fans, Elevators, Motors, Etc. Equipped with Dual outlet, both sides being filtered for noise elimination.



No. 90 Net \$5.51

ICA ANTENNATROL For Improved Radio Reception

Eliminates interfering stations. Operates as noise reducer with outside aerial, and works as an indoor aerial. Increases volume on weak stations.



No. 4394 Net \$6.00

ICA REPLACEMENT LINE BALLASTS

For Majestic, Stewart Warner and Brunswick

Exact duplicates of the original ballasts. Made to exact specifications, both physically and electrically. Units are enclosed in air-cooling perforated metal cases.



No. 4200—For Majestic 70 series..... \$9.00
 4201—For Majestic 90 series..... .90
 4202—For Majestic 180 series..... .90
 4203—For Stewart Warner 900 series... .90
 4204—For Stewart Warner 950 series... .90
 4205—For Stewart Warner R100 series... .90
 4206—For Brunswick Receivers..... .90

ICA UNIVERSAL RESISTOR CORD

From 22 or 330 Ohms On One Cord



No. 205 Net \$6.00

ICA FILTERVOLT

Eliminates extremely noisy radio reception due to interferences in power line caused by electrical appliances, lights, etc.



No. 394 Net \$1.71

ICA PERMO—MAGNETIC MICROPHONE

High Impedance Frequency Range 60 to 8000 Cycles



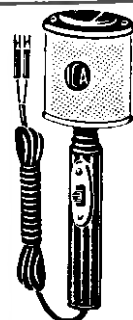
A high quality microphone, incorporating the new type high impedance Permo-Magnetic unit. Highly sensitive, it assures a perfect response at all times.

Frequency Range: 60 to 8000 Cycles with output level of 50 D.B. Complete with 5 ft. cord ready to install.

No. 1867 Net \$2.37
 Extra Extension Cords for microphone: 10 feet rubber covered stranded wire and cord connector. No. 194 Net \$4.45

ICA STUDIO TYPE HAND MICROPHONE

A popular style hand carbon microphone for use on any radio set or amplifier. Looks like a professional crystal type microphone. Contains an on-and-off switch mounted on handle. Furnished with 10 ft. cord and connector prong.



Complete with diagrams and instructions. No. 1855 Net \$1.20

ICA MICROPHONE BOOSTER



For connecting single button carbon microphones to radio receivers. Increases sensitivity and volume of any carbon microphone and limits button current to a safe value.

No. 1860 Net \$6.00

ICA EAR PHONES

Complete With Head Bands Made of molded Bakelite and light-weight nickel-plated metal. 2000 ohms.



No. 23—Double Head Phone..... Net \$1.80
 No. 22—Single Head Phone with Band..... Net \$1.05

ICA HIGH IMPEDANCE PICK-UP ADAPTERS

For Crystal Phono. Pick-ups and Crystal Mikes

The adapters connect either by insertion in control grid to ground circuit of detector or to first audio amplifier of receiver.

Furnished complete with shielded cable and change-over switch permitting to switch over from radio to phonograph or microphone, or vice versa.

5 Prong Adapter—For insertion under any 5 prong detector or 1st audio tube. No. 1760 Net \$7.75

Octal Base Adapter—For insertion under any detector or first audio amplifier that uses the octal base. No. 1761 Net \$7.75

Grid Cap Adapter—For insertion under any detector or first audio stage that has the control grid on top cap of tube. No. 1762 Net \$7.75

Grid Cap Adapter—Same as above except for use on metal or "G" type tubes. No. 1763 Net \$7.75

ICA LINGUAPHONE MORSE CODE RECORD



Learn the International Morse Code Quickly, Easily—Use EYE-FAR Method. The Complete Linguaphone Code Equipment consists of 5 Double-faced, electrically transcribed records in durable album. Contents: 3 Tables, 10 Lessons,

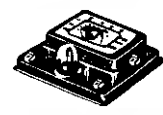
14 Exercises, 4 Appendices. No. 1800—Complete Net \$7.50

ICA "TRIPLEX" Radio & Telegraph Code Practice Set

Blinker Light Radio Signal—Telegraph No. Net 70—Single Unit (less batteries)..... \$9.00 71—Double Unit (50 ft. wire)..... 1.95



ICA TOP-NOTCH CRYSTAL SET



A super-sensitive crystal mounted under a dust proof glass cover. Beautifully engraved calibrated dial—housed in a handsome black crystalline metal case. Selector coil wound on solenoid form assuring clear and perfect reception. No. 12 Net \$9.90

ICA CRYSTAL SET

Has an adjustable crystal and an adjustable slider tuning coil. Complete with crystal and catwhisker.



No. 7 Net \$6.60

ICA REPLACEMENT "GALENA" CRYSTALS



Sensitive Galena mounted crystals. Fit all standard crystal cups.

No. 3 Net \$0.06

ICA FIXED CRYSTAL DETECTOR

A very sensitive Galena Crystal with permanent contact molded into colored Fenoline casing. Has 2 terminals for connections and mounting. Ideally suited for rectifiers on output meters.



No. 10 Net \$5.51

ICA CRYSTAL DETECTOR STAND WITH METER TESTED CRYSTAL

Swivel arm contacts any point on crystal quietly and easily. Uses clip terminals. Furnished with extra sensitive meter-tested crystals.



No. 11 Net \$15

ICA GLASS ENCLOSED CRYSTAL DETECTOR

A dustproof crystal detector, using a highly sensitive Galena crystal unit and cats whisker. Mounted on bakelite base with Fahnestock clips, ready for use.



No. 20 Net \$24

ICA HEADPHONE ADAPTERS

Convert any radio receiver into a "QUIET" Radio. Furnished with a 3 ft. cable and change-over switch permitting the selection of Phones or loudspeaker, or vice versa.



6 Prong Headphone Adapter To be inserted under any 6 prong Pentode Power Tube. No. 2582 Net \$1.65

8 Prong Headphone Adapter To be inserted under 8 prong metal or metal glass power tube. No. 2589 Net \$1.65

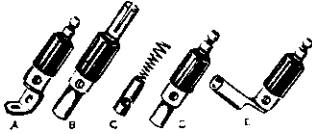
Adapters for Push Pull Output Tubes No. 2585—6 prong with 2 adapters Net \$1.95 No. 2587—8 prong with 2 adapters Net 1.95

ICA INSULINE ICA

RADIO PRODUCTS

ICA SUPER-TEST AUTO RADIO IGNITION SUPPRESSORS

Made of Moulded Bakelite—All Metal Parts Made of Rugged Machined Brass



No.	Net
Type E—349B—Spark Plug Slip-on Suppressor for 1939-40 cars	\$.15
Type E—349F—Slip-on Spark Plug Suppressors for New Model Ford Cars	.45
Type D—350B—Spark Plug Suppressors with Dual Threaded Inserts	.15
Type D—351B—Spark Plug Suppressors for Ford cars up to 1939	.15
Type A—377—Bracket type Suppressor for all cars	.18
Type B—352B—Distributor Suppressor for all cars	.18
Type C—4461—Ford Early Models	.18
Type C—4463—Ford Late Models	.18

NEW AND IMPROVED

ICA WIRE WOUND SUPPRESSORS LOW RESISTANCE 30 OHMS. D. C.



These suppressors have an extremely low D.C. resistance and thus definitely do not affect the intensity of the ignition spark or cut down the speed of the car.

No.	Net
2351B—Spark Plug Suppressor	\$.30
2353B—Distributor Suppressor	.30
2354B—1938-1939 Slip-On Suppressor; Will Also Fit Older Type Cars	.30

ICA MASTER DISTRIBUTOR SUPPRESSOR 10,000 Ohms



For use on new type cars where only one Suppressor is needed. Impervious to heat, oil and moisture, "Master Suppressor" is guaranteed to eliminate all motor noises—avoiding the necessity of individual suppressors.

No. 330	Net \$.30
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ICA SUPER DISTRIBUTOR FILTER

Replaces All High Resistance Suppressors Wire Wound



Only one ICA Super Distributor Filter is required for each car, for complete filtering of ignition noises. Consists of a number of separately wound pies of low D.C. resistance and high A.C. impedance, contained in a rugged bakelite heat and moisture-proof housing. The Super Filter is placed in distributor head only.

No. 4457	Net \$1.35
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ICA "A" LINE R. F. FILTER



Line noises, such as hum, hash, or ripple, can be eliminated by the use of these Filters in the "A" line.

No. 4455	Net \$.75
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ICA ANTENNA CONNECTOR



Used on all makes of automobile radio sets. Bayonet type construction. Cadmium plated.

No. 2347	Net \$.04 1/2
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ICA FUSE RETAINER

Used in power supply cables of all automobile radio installations using bayonet type construction.



No. 2348	Net \$.06
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ICA JUMBO FUSE HOLDERS



A large size Fuse holder measuring 2 1/2" long by 1/2" diameter.

No. 2349	Net \$.11
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ICA AERIAL BOOSTER COIL FOR MOTOROLA RECEIVERS

Equipped with special fittings for Motorola sets.

No. 2371	Net \$.24
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ICA UNIVERSAL AERIAL BOOSTER COIL

Designed to operate efficiently on any type receiver.

No. 2370	Net \$.24
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ICA LEAD-IN ADAPTER

For Ford, Philco, Motorola, etc.

No. 2372	Net \$.15
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ICA LEAD-IN ADAPTER

Converts Motorola Lead to Deleo fittings.

No. 2395	Net \$.15
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ICA PIN PLUG AND JACK

For Motorola Sets

No.	Net
2375—Pin Plug	\$.06
2378—Shielded Jack	.12



ICA BUICK LEAD-IN ADAPTER

For Special Fitting on Buick Sets

No. 2373	Net \$.21
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ICA FRONT WHEEL NOISE SUPPRESSORS

Simple — effective. Equipped with plate and screw for easy attachment to wheel caps.

No. 4475—Per pair	Net \$.18
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ICA WHEEL HUB STATIC ELIMINATOR

Used under hub of front wheel. An essential on all cars to eliminate front wheel static. Less Back Plate and screw.

No. 4476—Per pair	Net \$.12
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ICA SHIELDED LO-LOSS AUTO ANTENNA LEAD-IN CABLES



Replacement for any make Auto Antenna. Made of flexible cable—protected by a durable shielded loom, covered with black processed braid.

No.	Net
4590—24" Long—Male Connector and Ground Lead	\$.33
4591—24" Long—Male and Female Connectors	.33
4592—24" Long—Both Male Connectors	.33
4593—36" Long—Male Bayonet Terminal Lug End	.39
4594—48" Long—Male and Female Connectors	.45
4595—72" Long—Male Connectors with Ground Lead	.57

FOR MOTOROLA SETS

4596—Shielded hinge Lead with Pin Plug 36" long	.39
4597—Shielded Cowl Lead with Pin Plug 36" long	.39
4598—Shielded Lead for ICA Universal Bracket Cowl Antenna with Pin Plug 36" long	.39

ICA

AUTO BY-PASS CONDENSER

For by-passing ammeter, dome light or generator. Capacity 1/2 mfd.

No. 1244	Net \$.24
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ICA

GENERATOR SILENCER

Heavy duty generator condenser eliminates generator, ammeter, distributor noises. Capacity 1 mfd.

No. 1243	Net \$.39
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ICA

FORD V8 NOISE SILENCER

No. 1245
Net \$.36



ICA

FORD V8 CONDENSERS FOR 1939-1940 MODELS

Equipped with Special Bracket. Capacity 1 1/2 mfd.

No. 1246	Net \$.36
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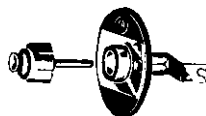


ICA PLUG AND JACK

Used on RCA recording units, receivers and auto sets.

No.	Net
2383—Pin Plug	\$.06

2385—Socket & Shield	.09
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ICA INTERFERENCE CONTROL FOR AUTO RADIOS

Consists of a combination high-frequency filter and an adjustable balancing circuit that completely eliminates the use of spark plug suppressors. A manual inductance control permits positive "balancing out" of interference regardless of the frequency.

No. 4454	Net \$1.35
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ICA INSULINE ICA

RADIO PRODUCTS

I. C. A. "DE LUXE" AUTO RADIO ANTENNAS

SIDE COWL AERIALS

NOISELESS! RATTLE PROOF!
Lifetime Guarantee Against Rusting
Admiralty Brass and Stainless Steel Antennae
● Static Discharge Ball supplied on all aerials
● All Antennae supplied with 36" Fool-proof Spring Tensioned Lo-Loss Cables protected by Heavy Shielded Loom to prevent noise pick-up

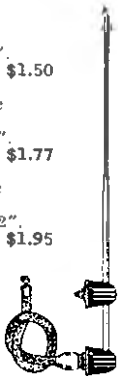
The "GOVERNOR"
Two Section Telescopic
49" Total Length
Extends from 23" to 49"
No. 4551 Net \$1.50

The "CHANCELLOR"
Three Section Telescopic
65" Total Length
Extends from 29" to 65"
No. 4566 Net \$1.77

The "COMMODORE"
Three Section Telescopic
72" Total Length
Extends from 23 1/2" to 72"
No. 4555 Net \$1.95

The "PRESIDENT"
Three Section Telescopic
96" Total Length
Extends from 31 1/2" to 96"
No. 4553 Net \$2.40

The "COUNSELLOR"
FOR LONG DISTANCE
RECEPTION AND
POLICE WORK
Four Section Telescopic—108" Total Length
Made of Extra Large Diameter Brass Tubing.
No. 4558A Net \$2.97



HINGE ANTENNAS

NOISELESS! RATTLE PROOF!
Lifetime Guarantee Against Rusting
Admiralty Brass and Stainless Steel Antennae
● Antenna mounts directly on Hinge Pin—doing away with Brackets and assuring solid installation and elimination of vibration
● All Antennae Supplied with Heavy-Duty Flexible Lead-in Cable

The "CAPTAIN"
Two Section Telescopic
50" Total Length
Extends from 25" to 50"
No. 4525 Net \$1.17

The "YEOMAN"
Three Section Telescopic
63" Total Length
Extends from 20" to 63"
No. 4534 Net \$1.65

The "CORPORAL"
Three Section Telescopic
75" Total Length
Extends from 23 1/2" to 75"
No. 4533 Net \$1.77

The "ADMIRAL"
96" Total Length
Three Section Telescopic
Extends from 31 1/2" to 96"
No. 4532 Net \$2.10

The "DICTATOR"
For Police and Long Distance Reception
Four Section Telescopic
108" Total Length
Made of Extra Large Diameter
Admiralty Brass Tubing
No. 4538A Net \$2.85



UNI-MOUNT UNDERHOOD ANTENNA

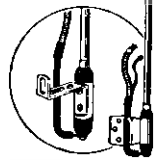
Only One Aerial for All Type Mountings
Fits All Model Cars Including Latest 1940 Styles
● Dual Brackets designed so that they can be interchanged in a minute for both Underhood and Alligator types
● Eliminates drilling of holes on body of car
● Made of Admiralty Brass, Triple-Chrome Plated. Guaranteed Rust-proof
● Both Underhood and Alligator Mounting Brackets are included as standard equipment with every aerial.
● All Antennae are supplied with Shielded Lo-Loss Lead-in Cable

The "WASP"
2 Section Telescopic—49"
No. 4800 Net \$1.17

The "TRAVELLER"
3 Section Telescopic—60"
Extends from 20" to 60"
No. 4801 Net \$1.77

The "CLIPPER"
3 Section Telescopic—72"
Extends from 23 1/2" to 72"
No. 4802 Net \$2.10

The "NEW YORKER"
3 Section Telescopic—96"
Extends from 31 1/2" to 96"
No. 4803 Net \$2.40



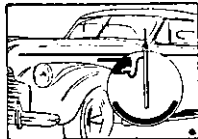
DISAPPEARING COWL AERIALS

NOISELESS—RATTLEPROOF—RUSTPROOF

- Triple Chrome plated, Admiralty Brass tubing
- Quickly and easily installed
- Disappears out of sight between side of cowl and kick pad of ear
- Single Hole Mount (only 1/2 inch diameter) on cowl of car
- Will not Interfere with Vision
- Beautiful Design, fittings match those of all new cars
- Has "Static Discharge" Ball on top of antenna
- Equipped with 36 inch Shielded Lo-Loss Lead-in Individually Bored

The "REGAL"
Two Section—50"
Extends from 3" to 50". Manually operated.
No. 4585 Net \$2.17

The "DE LUXE"
Three Section—60"
Extends from 3" to 60". Manually operated.
No. 4586 Net \$2.67



UNIVERSAL BRACKET COWL ANTENNAS

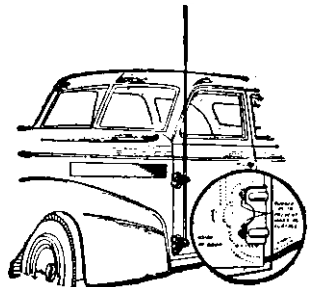
NOISELESS—RATTLEPROOF—RUSTPROOF
● Requires No Drilling of Holes
● Takes but a Minute to Connect—A Screw Driver is all that is required
● Supplied complete with Shielded Lo-Loss Cable

The "PIONEER"
Two Section Telescopic
49" Total Length
Extends from 23" when closed to 49"
No. 6500 Net \$1.77

The "GUARDSMAN"
Three Section Telescopic
72" Total Length
Extends from 23 1/2" to 72"
No. 6502 Net \$2.37

The "COLONEL"
Three Section Telescopic
96" Total Length
Extends from 31 1/2" to 96"
No. 6504 Net \$2.97

The "PREMIER"
FOR LONG DISTANCE RECEPTION AND POLICE WORK
Four Section Telescopic
108" Total Length
No. 6506A Net \$3.57



HAMILTON—"LEADER" ANTENNAS

HINGE ANTENNAS

Noiseless—Rattleproof
Rustproof
Admiralty Brass and
Stainless Steel

- All Antennae supplied with Heavy-Duty Flexible Lead-in Cable

No. 9528 Net \$0.60
One Section
Non-Telescopic
39" Total Length

No. 9525 Net \$0.95
Two Section
Telescopic
50" Total Length
Extends from 25" to 50"

No. 9534 Net \$1.35
Three Section
Telescopic
62" Total Length
Extends from 20" to 62"

No. 9533 Net \$1.58
Three Section Telescopic—72" Total Length. Extends from 23 1/2" to 72"

No. 9532 Net \$1.75
Three Section Telescopic—96" Total Length. Extends from 31 1/2" to 96"



SIDE COWL ANTENNAS

Noiseless—Rattleproof Rustproof

- All antennae supplied with fool-proof Spring Tensioned Lo-Loss Cables—protected by Heavy Shielded Loom to prevent noise pick-up

No. 9551A Net \$1.27
Two Section Telescopic
49" Total Length

No. 9557A Net \$1.54
Three Section Telescopic
60" Total Length

No. 9555A Net \$1.62
Three Section Telescopic
72" Total Length

No. 9553A Net \$2.18
Three Section Telescopic
96" Total Length



'GATOR HOOD COWL ANTENNAS

For Alligator Hoods Used on
1940 Model Cars

- No Drilling whatsoever
- Uses Bolts that are on cars
- Attractive Insulators enhance appearance of car
- Made of Admiralty Brass Triple Chrome Plated
- Noiseless—Rattleproof
- Each Antenna equipped with Shielded Lo-Loss Lead-in

No. 9510 Net \$1.06
49"—Two Section Telescopic. Extends from 23" to 49"

No. 9511 Net \$1.43
60"—Three Section Telescopic. Extends from 20" to 60"

No. 9512 Net \$1.62
72"—Three Section Telescopic. Extends from 23 1/2" to 72"

No. 9513 Net \$2.03
96"—Three Section Telescopic. Extends from 31 1/2" to 96"



UNDERHOOD COWL ANTENNAS

Noiseless! Rattleproof! Rustproof!

- No Drilling on surface of car
- Easily installed with self-tapping Screws

No. 9501 Net \$1.06
49"—Two Section Telescopic. Extends from 23" to 49".
With single Bracket and Shielded Lead-in Cable

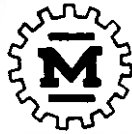
No. 9502 Net \$1.43
60"—Three Section Telescopic. Extends from 20" to 60".
With single Bracket and Shielded Lead-in Cable

No. 9503 Net \$1.62
72"—Three Section Telescopic.
Extends from 23 1/2" to 72"
With Two Brackets and Shielded Lead-in Cable

No. 9504 Net \$2.03
96"—Three Section Telescopic
Extends from 31 1/2" to 96"
With Two Brackets and Shielded Lead-in Cable



JAMES



MILLEN

TRANSMITTING CONDENSERS SERIES 11000 AND 12000

Something new — different — permitting more efficient use of newer tubes — more compact and symmetrical circuit arrangements and consequent better neutralization. Center fed rotors for better high frequency current distribution. Isolantite insulation. "Designed for Application" — terminals in convenient places; inductance socket may be mounted on stator; RF choke on frame as shown. New type meter dial at one end and meter at other provide balanced front panel appearance. End drive or right angle drive. Rounded polished heavy gauge aluminum plates. Series 12000 is conventional design using same size plates for those who want a condenser for replacement purposes in existing equipment. The series 13000 condenser have same plate sizes as series 11000 and 12000. Heavy pressed aluminum mounting frame is employed in place of casting. Direct drive from end of rotor-shaft. The series 14000 transmitting condensers are essentially the same in general design as the 13000 except the rotor plate diameter is 3 1/2" instead of 2". For single ended applications connect sections in parallel to obtain advantage of center feed and elimination of shorted frame loops.

11000, 12000, 13000, 14000 SERIES CONDENSERS .077" air gap is for 300° volt peak rating

MILLEN TYPE								
Code	Capacity per side		Plates per side	Dimension "L"	Plate Thickness	Air Gap	Voltage Rating	Net Price
	Max.	Min.						
11035	36	4.6	9	3 1/2	.040	.077	3000	\$ 5.75
11050	51	6.5	12	5 1/2	.040	.077	3000	5.95
11070	74	9.5	17	5 1/2	.049	.077	3000	6.50
13035	35	4.9	9	3 1/2	.040	.077	3000	3.80
13050	49.5	6.3	12	5 1/2	.040	.077	3000	4.35
13070	71	7.3	17	5 1/2	.049	.077	3000	4.90
14200	204	10.7	15	6 1/2	.053	.077	3000	6.50
14100	90.5	12.9	15	11 1/2	.053	.171	6000	10.00
14050	50		9	6 1/2	.053	.171	6000	6.00
14060	60		15	11 1/2	.053	.265	9000	10.00

CONVENTIONAL SINGLE SECTION TYPE (Plate Thickness .049")

Code	Capacity per section		Number Plates		Air Gap	Length Isolantite Bars	Position of End Frames	Net Price
	Min.	Max.	Per Section	Rotor Stator				
12935*	9	37	13	7	6	.176	3 3/4	\$3.60
12936	9	37	13	7	6	.176	3 3/4	3.25
12535	6	43	9	5	4	.077	3 1/2	2.00
12551	7	55	12	6	6	.077	3 1/2	2.25
12576	9	75	17	9	8	.077	3 3/4	2.50
12510	12	101	23	12	11	.077	3 3/4	3.00
12515	13	151	35	13	17	.077	5 1/2	3.75

CONVENTIONAL DOUBLE SECTION TYPE (Plate Thickness .049")

12035*	6	43	9	5	4	.077	3 3/4	\$3.60
12036	6	43	9	5	4	.077	3 3/4	3.25
12053*	7	55	12	6	6	.077	5 1/2	4.25
12051	7	55	12	6	6	.077	5 1/2	3.60
12075*	9	75	17	9	8	.077	5 1/2	5.50
12076	9	75	17	9	8	.077	5 1/2	4.50

* With polished plates.

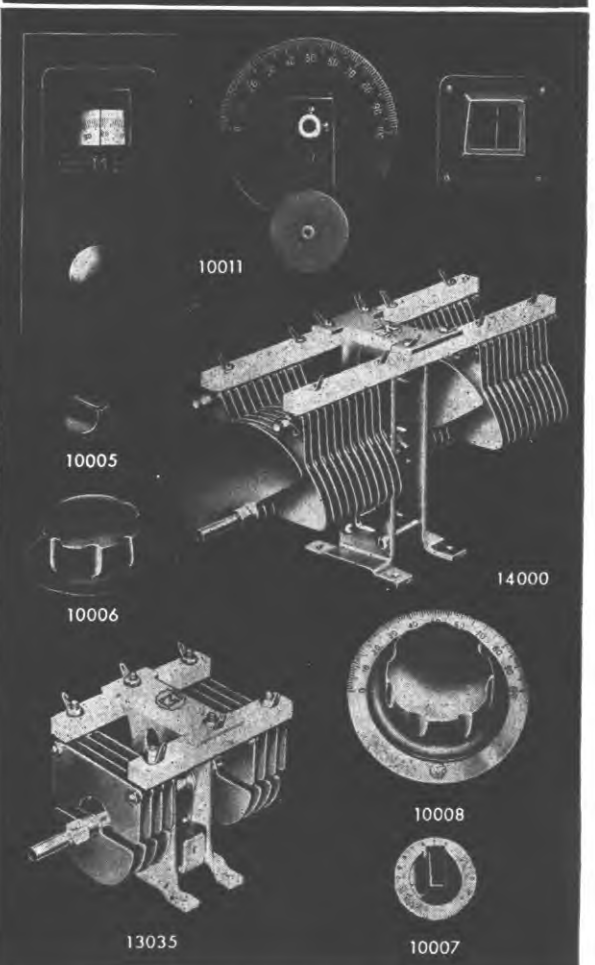
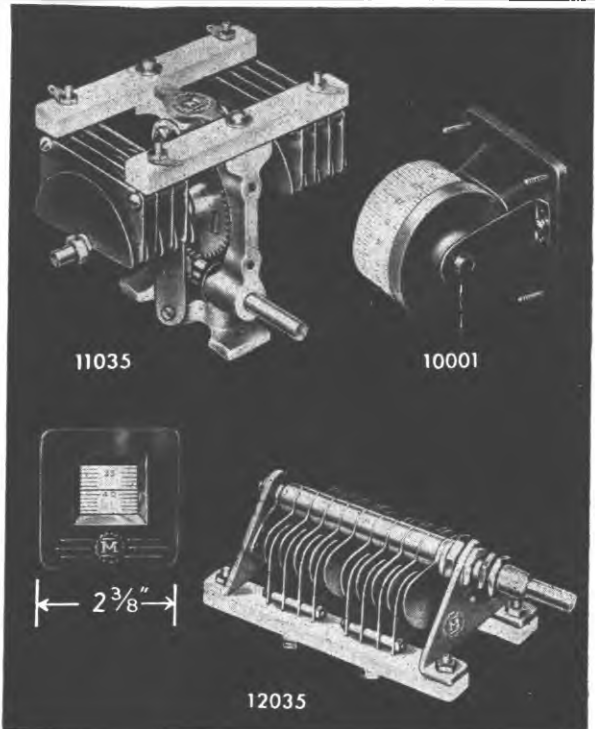
DIALS, DRIVES; SCALES and KNOBS

The right angle worm drive assembly as used on 11000 series condenser is also available for separate sale. Cast aluminum frame may be panel or base mounted. Ratio 16 to 1. Spring loaded split gears eliminate back lash. Condensers, etc. attached to quarter inch shaft by means of flexible couplings (not furnished)

The small drum dial is designed to match in appearance the popular two and three-eighths inch square case meters. May be mounted in round panel hole in same manner as meter. Drum diameter approximately 2". May also be used as indicator for remote condensers, etc. by means of flexible shaft or string drives. Front plate molded of black bakelite. Illuminator comprises bayonet type socket and mounting clip complete with 6 volt bulb. May be used with either drum or disc dial.

10065 vernier drive is for use with 10008 dial, 10050 lock is also for use with dials such as 10007 and 10008. Vertical movement of clamping finger is designed to prevent detuning.

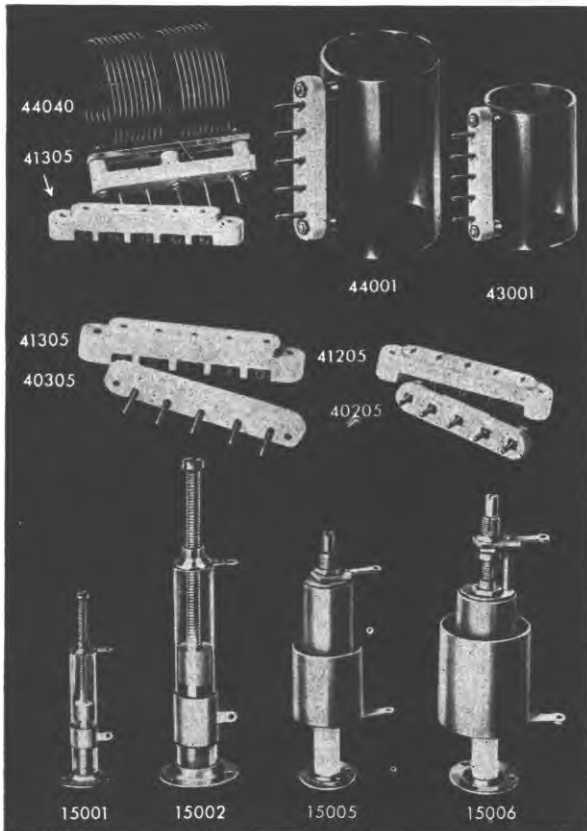
Code	Description	Net Price
10000	Worm Drive Unit.....	\$3.00
10001	Drum Meter Dial-0-100.....	1.95
10003	Navy Type Bar Knob.....	.35
10004	Small Tuning Knob.....	.07
10005	Small Control Knob.....	.07
10006	Large Tuning Knob.....	.50
10007	1 1/2" Nickel Silver Inst. Dial-0-100.....	.45
10008	3 1/2" Nickel Silver Inst. Dial-0-100.....	.90
10011	Disc Meter Dial-0-100.....	2.25
10035	Illuminator.....	.35
10045	Inertia Wheel.....	.35
10050	Dial Lock.....	.35
10052	Drum Meter Dial Bezel Only.....	.45
10053	Disc Meter Dial Bezel Only.....	.45
10065	Vernier Drive Unit.....	.35



JAMES



MILLEN



Transmitting Coils, Forms, Neutralizing Condensers

The midget series of airwound inductors are ideal for receiver and preselector use as well as oscillators, exciters, doublers and low power finals. Bar type Steatite plug and socket makes possible compact symmetrical circuit layout. Sockets mount conveniently directly on transmitting condensers. QuartzQ coil forms are easy to drill. Wire may be imbedded into form by use of QuartzQ coil dope. Standard tube socket pins have low contact resistance and carry high current. "100 watt" series has swinging link.

Code	Description	Net Price
43161	Midget coils for each.....	\$.90
43081	band. Mounted on No. 40205.....	.90
43041	plug. No. 1 at end of code means.....	.90
43021	center link. No. 2, end link.....	.90
43011	.....	.90
43001	QuartzQ blank form and plug.....	.90
40205	Midget Plug.....	.21
41205	Midget Socket.....	.30
44160	"100 watt" coils.....	2.10
44080	for each band. Mounted on.....	1.90
44040	No. 40305 plug.....	1.50
44020	.....	1.50
44010	.....	1.50
44005	.....	1.50
44000	QuartzQ form 1 3/4" dia. x 3 3/4".....	.75
44500	Swinging link and socket.....	1.75
44001	Quartz Q blank form and plug.....	1.20
40305	Intermediate size plug.....	.45
41305	Intermediate size socket.....	.45

Compact new style transmitting condensers, dials, and the new types of tubes make necessary more compact and efficient neutralizing condensers. By eliminating all external supporting structures, we have arrived at the designs presented herewith. Numbers 15001, 15002 and 15003 are extremely compact and highly efficient. They use the ultra low loss QuartzQ as a dielectric. Due to the dielectric factor being approximately 3 and the puncture voltage being approximately 500 volts per mil (for thin sections) it can be appreciated how this efficient compact design is possible. Numbers 15005 and 15006 are of the telescoping cylinder type with air dielectric for use where high ambient temperatures preclude use of 15001 and 15002. The design is such that the inner cylinder largely shields the supporting Isolantite insulator so that the volume of solid dielectric in the electrostatic field is extremely small.

Code	Capacity Range	Peak Voltage	Net Price
15001	0.7 — 4.3	6000*	\$.75
15002	0.5 — 13.5	6000*	.95
15003	1.5 — 8.5	6000*	.75
15005	3.4 — 14.6	4000	1.80
15006	2.8 — 9.1	6000	2.75

* Max. recommended DC Plate Volts 1200.

A Precision Crystal Secondary Frequency Standard



A precision frequency standard capable of being adjusted to WWV or some other primary standard and putting out uniformly accurate calibrating signals with 10, 100, 1000 KC intervals. Uses the new GENERAL ELECTRIC 1000 KC crystal having a frequency temperature coefficient of less than one cycle / Mc / C°. The crystal is sealed in Helium in a standard metal tube envelope.

The self-contained AC power supply has VR150-30 voltage regulator tube.

In addition to oscillator, multi-vibrators, and amplifier, a built-in detector with phone jack and gain control on panel is incorporated.

The August 1940 issue of the magazine QST contains a detailed technical description by the designer, Mr. George M. Brown.

Tubes required: VR150-30; 6K8; 2-6SC7; 6V6; 6L7; 5W4. Cabinet size: 9" x 9 1/2" x 10 1/2". Weight of the 110 volt 60 cycle model, less packing, is 16 pounds.

90501—Frequency Std., less tubes and crystal 110V60 net price.....	\$55.00
90502—Frequency Std., less tubes and crystal 110V25 net price.....	62.50
90503—Frequency Std., less tubes and crystal 220V50-60 net price.....	60.00
90505—Same as 90501 complete with G.E. tubes and G.E. crystal net price.....	75.00
90506—Same as 90502 complete with G.E. tubes and G.E. crystal net price.....	82.50
90507—Same as 90503 complete with G.E. tubes and G.E. crystal net price.....	80.00
Kit of G.E. tubes.....	5.00
General Electric 1000 KC crystal.....	15.00

Midget Frequency Meters

Many amateurs and experimenters do not realize that one of the most useful "tools" of the commercial transmitter designer is a series of very small absorption type frequency meters. These handy instruments can be poked into small shield compartments, coil cans, corners of chassis, etc., to check harmonics; parasites; oscillator-doubler, etc., tank tuning; and a host of other such applications. Quickly enables the design engineer to find out what is really "going on" in a circuit. Sold in sets of 4 in handy protective case or individually.



	Net Price
90603—Range 2.8 to 9.7 mc.....	\$1.65
90606—Range 9.0 to 28 mc.....	1.65
90607—Range 26 to 65 mc.....	1.65
90608—Range 50 to 140.....	1.65
90600—Complete set of four, in case.....	6.30

JAMES



MILLEN

Receiving Condensers, Flexible Couplings

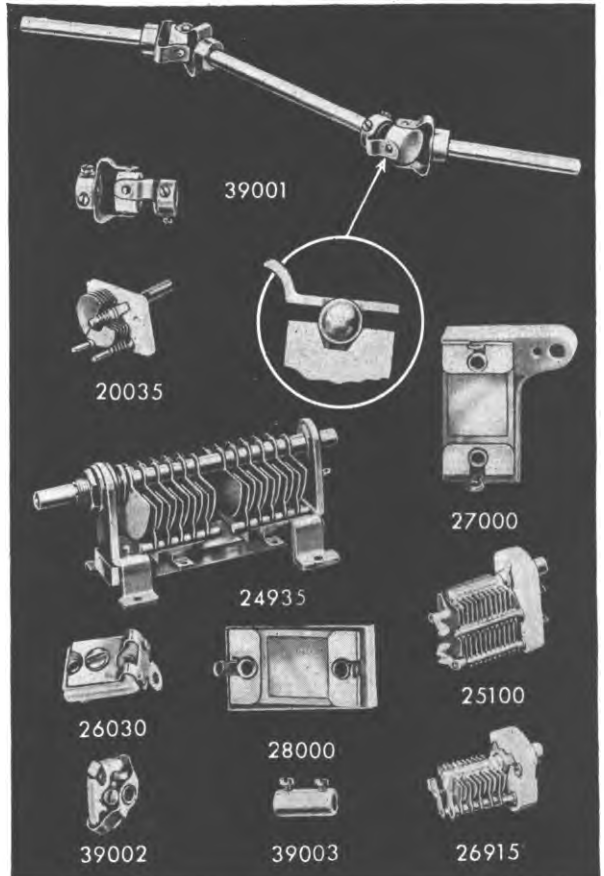
Something new in flexible couplings. No backlash, yet angle drives with as much as 45°, may be obtained. Isolantite insulation. Ideally suited for driving type 10001 drum dial indicator under many conditions. Applied torque must be limited to an amount that will not displace ball pivot bearings. No. 39002 is compact conventional style flexible coupling over-all diameter only 1 1/2". Hubs for 1/4" shafts. Isolantite insulation. No. 39003 is solid brass coupling for 1/4" shafts frequently used with type No. 10000 worm drive. 39005 is non-insulated Universal joint for high torque applications, such as turning band switches, etc. 39006 is another entirely new type of coupling for shafts with end motion, eccentric rotation, etc. Hubs can twist, move in and out, slide sideways, etc.

No. 24935 is an ultra high frequency dual double spaced condenser, suitable for small transmitters, as well as receivers, that possesses several outstanding features including aluminum mounting feet and QuartzQ dielectric. All metal parts are of aluminum or heavily cadmium plated brass. Series 20000 are compact Steatite Ultra midget condensers, ideal for small receivers, etc.

Series 21000 is same size as 20000 but with double bearings and rear shaft extension. Series 22000 and series 23000 have larger plate sizes and longer air gaps. Much used in commercial transmitter designs.

A complete line of padding condensers for all amateur receiver construction requirements, including the new "silver on mica," highly stable fixed units with Isolantite bases. Wax impregnated. The Steatite base air dielectric variable units are available in the completely variable type as well as the part-fixed, part-variable units which are frequently more practical where large values of capacity are required, due to the vernier adjustment action. Soldered plate construction, brass plates cadmium plated, extremely compact. Concentric shaft locks can be furnished for 10 cents net additional on 26000 series. 26000 series can also for 15 cents net extra be furnished with 1/4" extended shaft for use with knob. The No. 28030 compressed mica padded is of conventional design, inexpensive and handy for many uses where the extreme stability of the air padders is not required.

Code	Description	Net Price
10060	Shaft Lock for 1/4" Shafts	\$.36
39001	Truly Flexible Isolantite	.36
39002	Conventional	.36
39003	Solid Brass N.P.	.15
39005	Universal Joint, Non-Insulated	.36
39006	Slide Action	.36
24935	35 mmfd per section, Double spaced	2.10
21100	100 mmfd per section, Single spaced	2.10
20015	Steatite Ultra Midget 15 mmfd SS	.60
20035	Steatite Ultra Midget 35 mmfd SS	.75
20050	Steatite Ultra Midget 50 mmfd SS	.85
20100	Steatite Ultra Midget 100 mmfd SS	1.15
20140	Steatite Ultra Midget 140 mmfd SS	1.30
20920	Steatite Ultra Midget 20 mmfd DS	.85
20935	Steatite Ultra Midget 35 mmfd DS	.90
21050	Steatite Ultra Midget 50 mmfd SS	1.10
21100	Steatite Ultra Midget 100 mmfd SS	1.30
21140	Steatite Ultra Midget 140 mmfd SS	1.50
21935	Steatite Ultra Midget 35 mmfd DS	1.20
22915	Steatite Midget 15 mmfd DS	.85
22935	Steatite Midget 35 mmfd DS	.90
22950	Steatite Midget 50 mmfd DS	1.00
22075	Steatite Midget 75 mmfd SS	1.10
22100	Steatite Midget 100 mmfd SS	1.15
22140	Steatite Midget 140 mmfd SS	1.35



Code	Description	Net Price
23925	Steatite Dual Midget 25 mmfd per section DS	1.68
23950	Steatite Dual Midget 50 mmfd per section DS	1.92
23075	Steatite Dual Midget 75 mmfd per section SS	1.89
23100	Steatite Dual Midget 100 mmfd per section SS	2.04
25130	93-130 Air Padder	1.25
26140	6.5-140 Air Padder	1.25
26100	5-97 Air Padder	1.10
26075	4.3-76 Air Padder	1.00
26050	4-50 Air Padder	.90
26025	3.2-25 Air Padder	.80
26920	4.5-20 Air Padder	.90
26935	5.5-36 Air Padder	.95
28030	30 mmfd Mica Padder	.15
27010	10 mmf Silver on Mica	.30
27025	25 mmf Silver on Mica	.30
27050	50 mmf Silver on Mica	.30
27100	100 mmf Silver on Mica	.30
27150	150 mmf Silver on Mica	.35



THE HETROFIL*

The Hetrofil is a device which provides means directly in the audio output of a communications receiver to reject or suppress an interfering signal or audio beat note. Thus, if two CW stations are being received simultaneously the Hetrofil may be adjusted so as to reject either of the signals and accept the other. Or, if two phone signals being received at the same point on the dial cause a heterodyne beat note, the Hetrofil may be adjusted so as to eliminate the audible beat note. The unit operates directly in the audio output of the receiver without the use of tubes. It may be used externally as a separate unit or built into a complete receiver. When used with a receiver without the modern type crystal filter it has all of the advantages of the phasing control of the crystal circuit and at the same time is much easier and quicker to operate. When an interfering signal is heard, the knob is rotated until the objectionable audio signal is removed. The Hetrofil may be used with any type of receiver and provides a means of selective control for TRF receivers comparable to the crystal filter used in superheterodynes and at a much lower cost. It may also be used in super-regenerative receivers to remove the interruption frequency from the output. A technical paper fully describing this new device appeared in the September 1939 issue of QST. Manufactured under license from the inventor, Dr. R. W. Woodward.

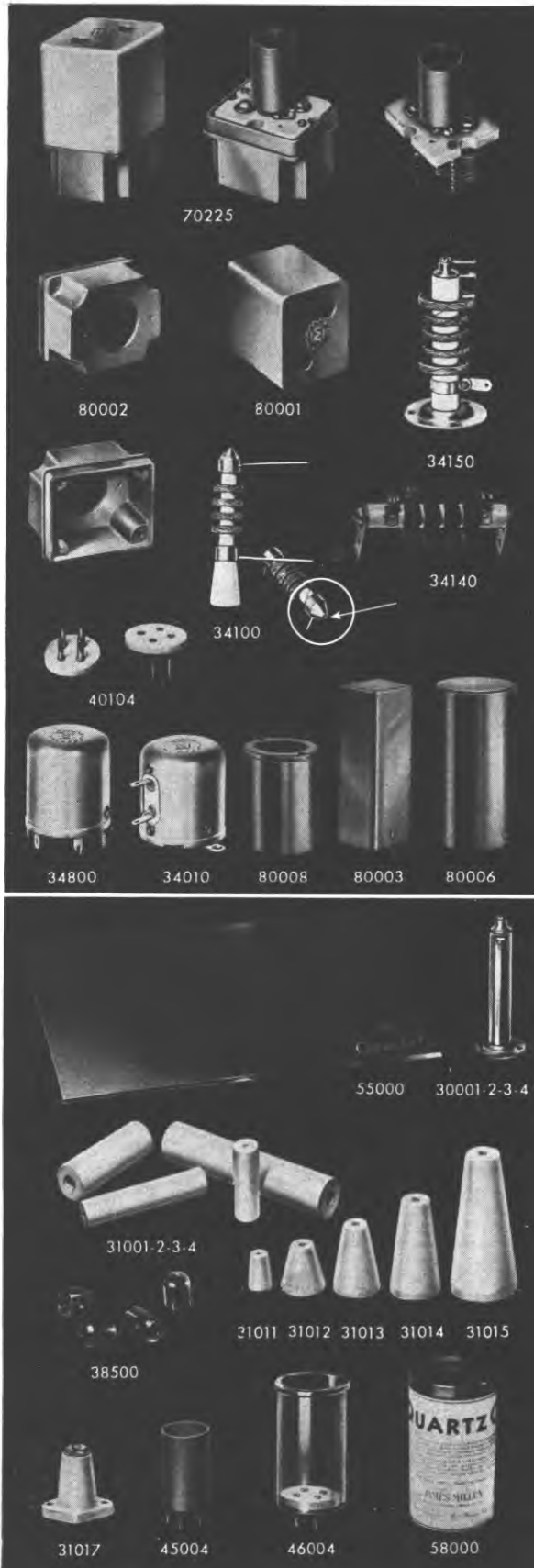
Code 90721.....Net Price \$3.50

*Reg. Trademark

JAMES



MILLEN



TUNED EXCITER TANKS, RF CHOKES, SHIELDS

Something radically new in compact *fixed-tuned exciter tank* design. Die cast aluminum base with removable cover admits ready access to coil for changing turns after being mounted on chassis and wired into circuit. Condenser, dual, double space 25mmfd. Electrostatic shield between condensers. Isolantite base. Standard socket mounting hole in die cast base. Type 40104 or 40105. Isolantite tube base may be mounted in casting so that it will become "plug-in". Coil form is standard type 45000 of mica base low loss molded Phenolic. The Isolantite wafer pin bases are ideal for ultra high frequency coils, plug-in fixed condensers, tapped resistors and other such uses. The cast aluminum condenser case may also be used for plug-in shielded coils in receivers, for shielding tube sockets, etc. The series of *shield cans* illustrated are those used for our IF transformers, etc. Heavy extruded aluminum.

The No. 34100 RF choke is made to the same electrical specifications as our famous original design. Mechanical improvement includes brass tapped insert molded in die cast end to permit mounting on steatite standoff furnished with each choke. No. 34150 is new 500 MH iron core transmitting design with spun glass insulated wire, which provides impedance peaks on all amateur bands. Ideal for high power at 14 megacycles.

Code	Description	Net
34100	Universal 2.5 MH	\$.36
34101	Universal 2.5 MH, less Standoff	.30
34102	Commercial type 2.5 MH	.36
34140	Universal air core Transmitting	1.00
34150	Amateur Band Iron Core	1.75
34010	Shielded 10 MH receiving	.60
34210	General Purpose RFC 10 MH	.30
34225	General Purpose RFC 25 MH	.35
34240	General Purpose RFC 40 MH	.40
34285	General Purpose RFC 85 MH	.50
34800	Interruption Frequency Oscillator Coil	.90
80003	Square 1 1/2 x 4	.25
80004	Oblong 1 1/2 x 1 1/8 x 4 1/2	.25
80005	Square 2 x 4 1/2	.25
80006	Round 2 1/2 x 4	.25
80007	Round 2 1/8 x 2 3/8	.30
80008	Round 2 1/8 x 2 3/8	.35
70225	Complete (Unwound) (No base plug)	\$3.25
80002	Cast aluminum base only	.50
80001	Extended Aluminum cover	.25
40104	4 Prong Isolantite base plug	.25
40105	5 Prong Isolantite base plug	.25

QUARTZQ, STANDOFFS, COIL FORMS

QuartzQ is a highly polymerized styrene which possesses remarkably low radio frequency losses (practically zero!) and high resistance to voltage breakdown. Its excellence as a high frequency dielectric is about the same as that of fused quartz. The use of this material will result in a substantial reduction in losses and consequent increase in "Q"—hence, the name QuartzQ. QuartzQ may be readily cut and drilled. Electrical Characteristics: power factor .02%; dielectric constant 2.6; loss factor .00053; dielectric strength 500v/mil. *Standoffs* have fitted metal tops. QuartzQ heads are for construction of short concentric link lines; ideal for use between RF stages in transmitters. The 1 1/2" diameter QuartzQ coil form, at last, presents a practical solution to the problem of an ultra low loss coil form with plug-in base. The Isolantite base wafer effectively heat insulates the prongs from the QuartzQ so as to prevent damage when soldering leads to pins.

The series 45000 coil forms are of the popular mica base molded Phenolic type. Slightly longer than formerly available units of this type, so as to make easier the winding of low frequency coils. Ceramic standoffs are of the best grade steatite with clean accurately threaded holes.

Code	Part	Size	Material	Net
55001	Sheet	3 x 8 1/2 x .1	QuartzQ	\$.35
30001	Standoff	1/2 x 1 1/8	QuartzQ	.15
30002	Standoff	1/2 x 2 3/8	QuartzQ	.21
30003	Standoff	3/4 x 2 3/8	QuartzQ	.55
30004	Standoff	3/4 x 4 3/8	QuartzQ	.65
31001	Standoff	1/2 x 1	Isolantite	.12
31002	Standoff	1/2 x 2 1/2	Isolantite	.18
31003	Standoff	3/4 x 2	Isolantite	.30
31004	Standoff	3/4 x 3 1/2	Isolantite	.42
31011	Cone	3/4 x 1/2	Steatite	.05
31012	Cone	1 x 1	Steatite	.15
31013	Cone	1 1/2 x 1	Steatite	.21
31014	Cone	2 x 1	Steatite	.27
31015	Cone	3 x 1 1/2	Steatite	.45
31017	Cone with base and jack	1 1/4" high	Steatite	.30
31018	Cone with base and screw top	1 1/4" high	Steatite	.21
38500	100 Beads	3/8" dia.	QuartzQ	.60
45000	Coil Form	1" dia. no p.	Low loss mica base Phenolic	.21
45004	Coil Form	1" dia. 4 p.	Low loss mica base Phenolic	.30
45005	Coil Form	1" dia. 5 p.	Low loss mica base Phenolic	.30
45500	Coil Form	5/8" dia.	Steatite	.45
47001	Coil Form	1/2" dia.	QuartzQ	.10
47002	Coil Form	1/2" dia.	QuartzQ	.15
47003	Coil Form	3/4" dia.	QuartzQ	.35
47004	Coil Form	3/4" dia.	QuartzQ	.45
46100	Coil Form	1 1/2" dia. no p.	QuartzQ	.45
58000	Coil Dope	2 oz.	QuartzQ	.30

JAMES



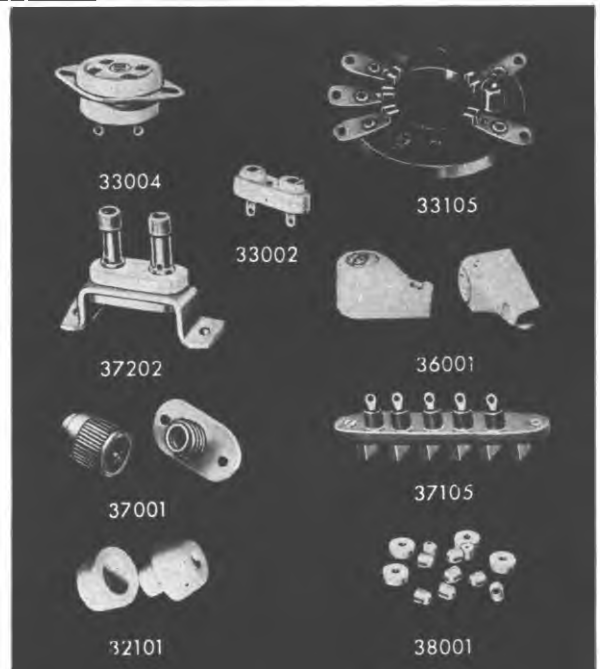
MILLEN

SAFETY TERMINALS, CONNECTORS, SOCKETS

Terminals. Every day the importance of safety in the design of amateur radio equipment is being more fully realized. High voltage power supply units have been particularly bad offenders in the past. Newly designed high voltage terminals, rectifier plate caps, bushings, and terminal panels presented herewith now make possible improved safety designs of complete units. Barrier between contacts of No. 37105 AC terminal panel not only prevents arc over but also accidental contact with metal terminals. Easy to mount. Only series of small round holes required in chassis. Extra terminals provide for relay connection for remote "push to talk" switching. No. 37001 high voltage terminal mounts with round holes. Insulated bushing extends thru chassis, all metal parts completely enclosed in bakelite case; tapered plug and socket "high area-heavy pressure" contact.

Sockets. This new series of sockets uses a much higher steatite body than any former design so as to provide increased insulation between contacts and between contacts and chassis. Barriers separate all of the contacts. Thus the four prong units, for instance, may be safely used for 866 rectifiers on high voltage units. This design permits use of sockets with plug-in coils without having the coils excessively close to the chassis as in the case of "thin" sockets. Contacts designed so solder will not readily flow into them. May be mounted on metal chassis without steel stirrup if preferred. Crystal holder socket offers many desirable features: good contact, easy to mount (only round holes required), round bushings surrounding contacts extend through chassis or panel when socket is mounted behind chassis or panel. Acorn socket uses QuartzQ insulation.

Code	Description	Net Price
32100	Steatite Bushing for $\frac{3}{8}$ " hole.....	\$0.30
32101	Steatite Bushing for $\frac{1}{2}$ " hole.....	.35
32102	Steatite Bushing for $\frac{3}{4}$ " hole.....	.20
32103	Steatite Bushing for $\frac{1}{2}$ " hole.....	.45
32150	Isolantite Thru-bushing, for $\frac{1}{4}$ " hole.....	.05
36001	Ceramic Plate Cap, $\frac{1}{2}$ " for 866 etc.....	.21
36002	Ceramic Plate Cap, $\frac{3}{8}$ " for 807 etc.....	.21
37101	Black Bakelite Safety Terminal.....	.35
37501	Low Loss Mica Bakelite Safety Terminal.....	.45
37104	Four Terminal, Black Bakelite.....	.55
37105	Five Terminal, Steatite.....	.45
38001	Isolantite $\frac{1}{8}$ " O.D. Beads (Pk of 50).....	.30
33002	Crystal Socket.....	.25
33004	4 Prong Socket.....	.24
33005	5 Prong Socket.....	.24
33006	6 Prong Socket.....	.24
33008	8 Prong, Octal, Socket.....	.24
33888	Aluminum Shield for 33008.....	.18
33991	Socket for 991 etc.....	.45
33087	Base Clamp for 807 etc.....	.30
33105	Acorn Socket, QuartzQ.....	.90
37202	Steatite Plates, Pr.....	.21
37222	Terminal Posts, Pr.....	.30
37211	Bracket.....	.15

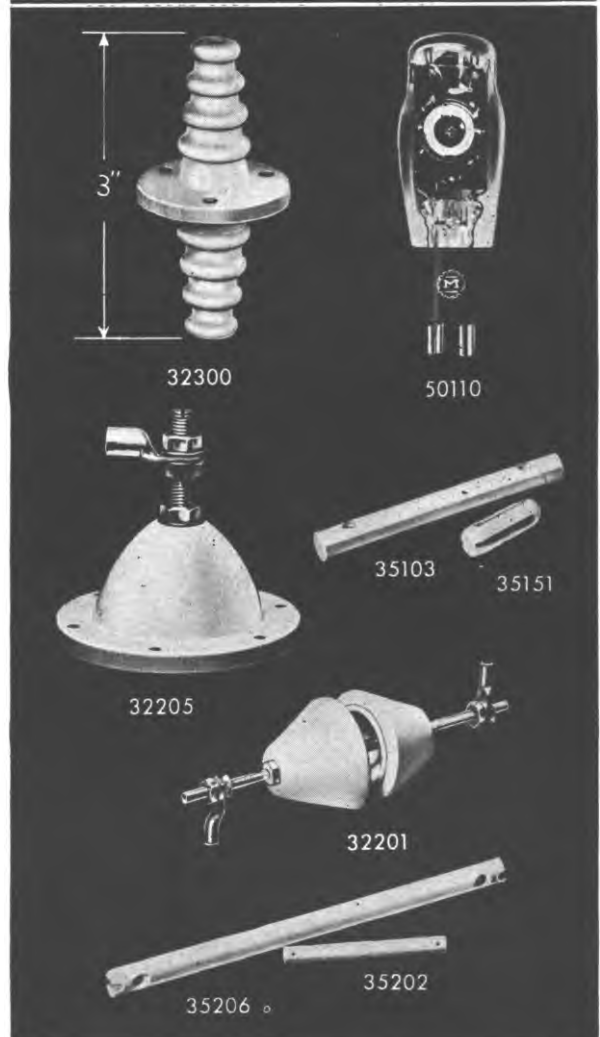


ANTENNA DEVICES, SAFETY RELAYS

The small No. 35202 *steatite spreader* has many possibilities for use inside the radio shack as well as out. When used with a pair of No. 16 tinned wires the spreaders are easily, neatly, and ruggedly locked in place by means of a drop of solder on the wire at each side of the hole. This arrangement makes an efficient, neat 500 ohm line for use between the receiver, the transmitter and the antenna change over relay. Diameter is only $\frac{1}{4}$ "! Novel feature of the *lead-in bowl* hardware is the screw-driver slot at ends of rods to permit holding while tightening nuts. Isolantite bushing 32300, has the very desirable feature of being made from solid pieces of Isolantite and will stand up under very severe conditions. Much used on certain types of government, commercial, and diathermy work.

An extremely unique device is the No. 50006 vacuum enclosed *delay relay*. Available with either 6 or 110 volt heater winding. Takes approximately 30 seconds for bimetallic snap disc to operate. Due to snap action of the contact and vacuum, the relay can easily handle 1 kilowatt. Time action adjustable over limited range by heater voltage variation. Ideal for aircraft installations. Standard 4 prong base.

Code	Description	Net Price
35103	Steatite Antenna Insulators.....	\$.21
35151	Steatite Antenna Insulators.....	.18
35206	Steatite Feeder Spreader 6".....	.18
35202	Steatite Feeder Spreader 2".....	.10
32300	Isolantite Bushing.....	1.50
32201	Steatite Bushings and Hardware $1\frac{1}{4}$ " Hole.....	.50
32202	Steatite Bushings and Hardware $1\frac{3}{4}$ " Hole.....	1.75
32203	Steatite Bushings and Hardware $2\frac{1}{2}$ " Hole.....	3.00
32204	Steatite Bushings and Hardware $3\frac{1}{2}$ " Hole.....	3.90
32205	Steatite Bushings and Hardware $3\frac{3}{4}$ " Hole.....	9.30
50606	Delay Relay 6V. Cold Open.....	10.00
51006	Delay Relay 6V. Cold Closed.....	10.00
50110	Delay Relay 110V. Cold Open.....	10.00
51110	Delay Relay 110V. Cold Closed.....	10.00



JAMES



MILLEN



PREWIRED FOUNDATION UNITS, CHASSIS, PANELS

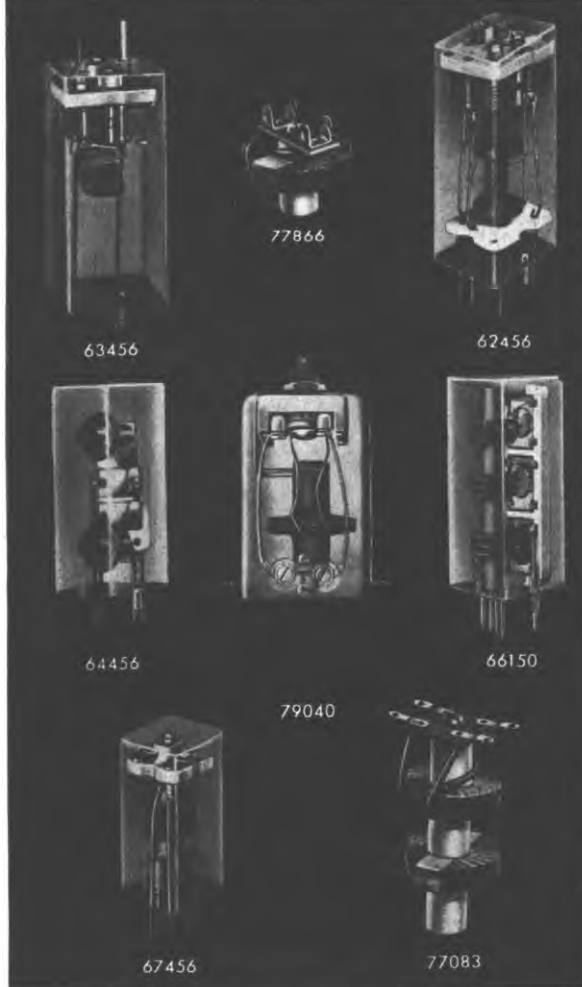
PREWIRED HIGH VOLTAGE TRANSMITTER PACK CHASSIS. Again, something entirely new! Not only is the headache work of cutting square holes, etc. in what is generally a rather necessary but uninteresting part of the transmitter construction eliminated, but also the wiring. Each size chassis can be used for more than one rating of pack by use of proper size power transformer. Designed with a view to "safety"; heavy steel baffle welded in base isolates input line circuits from high voltage leads. Furnished with insulated safety output terminal, AC input terminal block, tube socket, safety rectifier cap, etc. AC terminals on block for remote or relay control of high voltage. Complete except for tubes, transformer, chokes, filter condensers and bleeder. All mounting holes for Thordarson units. Other makes may be used by drilling additional holes.

RUGGED CAST ALUMINUM CHASSIS. Can be used over and over again in different jobs by merely replacing sheet aluminum top.

PANELS. Fine grain black wrinkle finished 1/8" thick steel panels. Standard relay rack punchings and sizes. Nothing new or novel. Just the conventional at the standard price! Uniform finish makes group of panels always match.

PLAIN STEEL CHASSIS. Light gauge, easy to drill.

Code	Part	Size	Net
80201	Complete Prewired Foundation Unit	Panel 19 x 10 1/2; Chassis 17 x 12; Power Ratings: 600 or 750V at 300MA; 750 or 1000V at 300MA; 1000 or 1250V at 300MA; 1250 or 1500V at 300MA;	\$13.50
80205	Complete Prewired Foundation Unit	Panel 19 x 12 1/2; Chassis 17 x 14; Power Ratings: 2000 or 2500 V at 300MA	15.00
80100	Steel Chassis.....	5 1/2 x 9 1/2 x 1 1/2.....	.45
80101	Steel Chassis.....	7 x 9 x 2.....	.60
80102	Steel Chassis.....	7 x 13 x 2.....	.75
80103	Steel Chassis.....	7 x 15 x 3.....	.90
80104	Steel Chassis.....	4 x 17 x 3.....	.75
80105	Steel Chassis.....	7 x 17 x 3.....	.90
80106	Steel Chassis.....	10 x 12 x 3.....	1.00
80107	Steel Chassis.....	10 x 14 x 3.....	1.00
80108	Steel Chassis.....	10 x 17 x 2.....	1.00
80109	Steel Chassis.....	10 x 17 x 3.....	.90
80150	Aluminum Chassis..	17 x 10 x 3.....	8.50
80301	Steel Panel.....	19 x 1 1/4 x 1/8.....	.45
80303	Steel Panel.....	19 x 3 1/2 x 1/8.....	.50
80305	Steel Panel.....	19 x 5 1/4 x 1/8.....	.65
80307	Steel Panel.....	19 x 7 x 1/8.....	.70
80308	Steel Panel.....	19 x 8 1/4 x 1/8.....	.90
80310	Steel Panel.....	19 x 10 1/2 x 1/8.....	1.05
80501	Steel Brackets.....	3/32 x 1/2 x 12.....	.25



I F TRANSFORMERS, WAVE TRAPS, HASH FILTERS

The "hash" filters are designed to eliminate the interference caused by mercury vapor types of rectifier tubes. Type 77083 is for use with type 82 or type 83 tubes. Type 77866 is for use with 866s. Wound on Isolantite cores. They should be connected in each plate lead as close to the tube as possible.

Wave traps afford practical and inexpensive means of combating BCL interference complaints. Available for all amateur bands.

Our line of IF transformers is extremely complete and covers air core air tuned, iron core air tuned, permeability tuned, as well as inexpensive mica tuned iron core units. Air dielectric condenser tuned beat frequency oscillator units are available for all standard IF frequencies. Each BFO units contains the grid condenser and the grid leak inside the shield.

Code	Description	Net
79020	14mc Band Wave Trap.....	\$.75
79040	7mc Band Wave Trap.....	.75
79080	3.5mc Band Wave Trap.....	.75
79160	1.7mc Band Wave Trap.....	.75
77083	"83" Hash Filter 250MA.....	1.00
77866	"866" Hash Filter 500MA.....	1.25 pr.
77872	"872" Hash Filter.....	1.40 pr.
<i>Air Trimmed</i>		
60456	456 Interstage (2) Air Core.....	2.75
60455	456 Interstage (1) Air Core.....	2.75
60454	456 Diode Air Core.....	2.75
63456	456 BFO Air Core.....	2.50
60501	5000 Interstage (2) Air Core.....	2.75
60502	5000 Diode Air Core.....	2.75
60503	5000 FM Interstage Air Core.....	3.00
60504	5000 FM Disc Air Core.....	3.00
63503	5000 BFO Air Core.....	2.50
62456	456 Interstage Iron Core.....	3.00
62454	456 Diode Iron Core.....	3.00
62161	1600 Interstage Iron Core.....	3.00
62162	1600 Diode Iron Core.....	3.00
63163	1600 BFO Air Core.....	2.50
<i>Mica Trimmed</i>		
67456	456 Interstage Iron Core.....	1.25
67454	456 Diode Iron Core.....	1.25
67503	5000 FM Interstage Air Core.....	1.50
67504	5000 FM Disc Air Core.....	1.50
<i>Permeability Tuned</i>		
64456	456 Interstage (2).....	1.35
64454	456 Diode (2).....	1.35
65456	456 BFO.....	1.35
<i>Triple Tuned</i>		
66456	456 Interstage.....	1.75
66454	456 Diode.....	1.75

Valpey Products

STEP BY STEP PRECISION MADE

A NEW COMMERCIAL AND BROADCAST MOUNTING

TYPE CBC-O—This new unit is quite similar in design to the familiar navy type holder, used in most modern commercial stations. Type CBC is superior, however, due to several exclusive features not found in any other holder.

The body is machined from Polystyrene, the best known electric insulating material. The base is machined from solid brass and recessed for the monel metal bottom electrode. The top electrode is also monel metal attached to the adjustable stud which is $\frac{3}{8}$ " in diameter and has 40 threads to the inch. This large diameter prevents any possible side play, while the fine thread allows vernier setting to exact frequency.



The holder is $\frac{2}{4}$ " in diameter overall and $\frac{3}{8}$ " high overall. This holder is furnished with or without our type CMA crystals.

The oven will hold the temperature constant to better than .5 degrees centigrade. It comes complete with bimetal thermostat, thermometer and instructions.

TYPE CBC Holder—Without oven. Only...\$12.00

TYPE CBC-O Holder—With oven..... 22.50

BROADCAST CRYSTALS—540 KC to 1600 KC

TYPE CCMA—Mounted in type CBC holder, maximum frequency drift 2 cycles Mc/°c, \$30.00

TYPE CCMA-O—Oven mounted type CBC holder, crystal max. freq. drift 2 cycles Mc/°c, \$45.00

General Communication and Commercial Units



TYPE VS-1 and VS-5—The type VS-1 and VS-5 mounting is for police, aircraft and other general communication frequencies. They are normally furnished molded mottled brown but will be supplied from low loss bakelite if specified on order. The VS-1 is of the variable spring pressure fixed air gap or contact type, employing stainless steel electrodes. Spring pressure can be varied from 1 ounce to 1 pound. The type VS-5 is the same body construction with spring pressure, but the top electrode is variable to allow exact setting of crystal frequency. The air gap construction is such that the crystal is held in constant position so no frequency shift can result from mechanical vibration or jar.

Both holders will accommodate one inch square crystals. VS-1 is $\frac{1}{2}$ " dia., $\frac{1}{2}$ " high including pins. VS-5 is $\frac{1}{4}$ " dia., $\frac{1}{8}$ " high including pins.

VS-1—Net Price \$2.50

VS-5—Net Price \$3.95

TYPE VO-1 CRYSTAL OVEN

The Type VO-1 Crystal Oven is intended for use with Police, Aircraft and Amateur installations. Its construction is such that any mounted crystal employing tube pins and not over $\frac{1}{4}$ " high including pins and overall diameter $\frac{1}{8}$ " may be mounted in it.

The crystal unit is installed by removing the three screws from the bottom of the oven. The crystal can be plugged in and the cover replaced. The Crystal Oven is adjusted at the factory to operate at 50° centigrade; other operating temperatures can be obtained by adjustment of the thermostat screw through a small opening in the top.

The oven is designed to plug into a five prong tube socket, the heater voltage is connected to the standard heater connections. The crystal is connected to the plate and cathode connections. The heater operates on from six to eight volts AC or DC and draws approximately .75 amperes.

The oven temperature is held constant to better than one degree. Any of our mounted crystal units except our Type CBC will mount in this crystal oven.

The oven measures 3" high overall and 2" in diameter.

Net Price, less crystal and holder, \$3.95



TYPE CMI

The type CMI crystal unit has been designed especially for the following Marine and Aircraft frequencies and is supplied only at the following frequencies accurate to + or - .03% of 3105 - 3120 - 2670 - 2738 - 2110 - 2118 - 2126 - 2134 - 2142 - 2158 - 2166 - 2174 - 2182 - 2198 - 2206 Kc's.

The mounting is molded low loss bakelite and of small flat construction, in order that a number may be grouped close together. The mounting is equipped with standard $\frac{3}{4}$ " spaced tube pins, for tube or crystal socket mounting, while the electrodes are made of accurately lapped stainless steel.

Net price Type CMI

\$9.75



TYPE 100LD

The Type 100LD consists of a low drift 100 Kc bar mounted in our Type CBC holder described above. The crystal has a maximum frequency temperature coefficient of .3 cycles at 100,000 cycles per degree centigrade. This unit is the finest available for extreme accuracy in a primary standard of frequency.

Crystal only, Net Price \$10.00

Complete unit, Net Price \$21.00



TYPE SS100

The Type SS100 unit consists of a silvered 100 Kc bar clamped between pin points; this exclusive Valpey feature results in maximum crystal activity.

It also allows for slight variation of frequency by adjusting the two screws on the cross piece just over the crystal. This reduces the capacity needed across the crystal, thus not reducing crystal activity.

Frequency change from mechanical vibrations is absolutely eliminated

even up to the one hundredth harmonic of the crystal. Frequency change with temperature is minus 1 cycle per degree centigrade.

The silvering eliminates any necessity for ever cleaning. The crystal and assembly is attached to a molded bakelite base which is covered with an aluminum shield cover.

Complete unit adjusted to exactly 100 Kc. **Net Price..... \$7.95**

TYPE DFS



The Type DFS unit contains a crystal which is ground to oscillate at 100 or 1000 Kc. It is well adapted for an accurate crystal calibrator.

By separate tuning of the plate tank coils while beating some harmonic of 100 or 1000 Kc. frequency with an accurate standard frequency such as WWV or broadcast station, extremely accurate frequency points may be obtained up to 5000Kc. from the 100 Kc. frequency and up to 60,000 Kc. from 1000 Kc.

The frequency change with temperature at 100 Kc. is approximately 10 cycles per million cycles in a negative direction and at 1000 Kc. 20 cycles.

Net Price \$7.25

GENERAL COMMUNICATIONS FREQUENCY CRYSTALS

PRICE LIST — TYPE CMA — LESS HOLDER

FREQ. IN KC	EXACT FREQUENCY .01% TEMP. COEFF. Cycles Per Mc/°c					DEDUCT FOR FREQ. WITHIN 1 KC TEMP. COEFF. Cycles Per Mc/°c					DEDUCT FOR FREQ. WITHIN 5 KC TEMP. COEFF. Cycles Per Mc/°c				
	1	3	4	15	40	1	3	4	15	40	1	3	4	15	40
80 to 99	\$55	\$43	—	—	—	\$4	\$4	—	—	—	\$6	\$6	—	—	—
101 to 150	42	35	—	\$25	—	4	4	—	\$4	—	6	6	—	\$6	—
150 to 275	40	33	—	25	—	4	4	—	4	—	6	6	—	6	—
275 to 400	38	25	—	—	—	4	4	—	—	—	6	6	—	—	—
400 to 550	35	30	—	—	—	4	4	—	—	—	6	6	—	—	—
550 to 1,715	24	20	—	—	—	4	4	—	—	—	6	6	—	—	—
2,000 to 3,500	20	13	—	—	—	4	4	—	—	—	6	6	—	—	—
4,000 to 5,000	21	14	—	—	—	4	4	—	—	—	6	6	—	6	—
5,000 to 7,000	—	20	—	15	—	—	4	—	4	—	—	6	—	6	—
7,300 to 8,500	—	15	—	13	—	—	—	—	—	—	—	6	—	6	—
8,500 to 14,000	—	17	—	15	—	—	—	—	—	—	—	6	—	6	—
14,400 to 18,000	—	19	—	15	—	—	—	—	—	—	—	—	—	—	\$6
18,000 to 30,000	—	—	—	—	\$35	—	—	—	—	—	—	—	—	—	—

Valpey Products

**STEP BY STEP
PRECISION MADE**

TYPE V5—OUR FINEST AMATEUR UNIT



The crystal is of the low temperature coefficient type, having a frequency drift that will not exceed four cycles per megacycle per degree centigrade. The crystal is so designed that it will operate with higher than normal amount of pressure which allows for higher input to the crystal oscillator stage. The mounting is molded from a low loss material

which has a power factor loss of .8% at radio frequency. The electrodes are lapped stainless steel, the upper one contacting the cover, allowing maximum heat radiation. PK pins are employed for five prong tube socket mounting. Type V5—stamped frequency guaranteed accurate to .03% in purchasers' equipment, supplied in the 1.7, 3.5 and 7 Mc bands within 5 Kc of frequency specified or from dealers' stock **Net \$4.80**
Exact frequency specified **Net \$5.90**

TYPE VFU VARIABLE FREQUENCY UNIT

The holder is molded from low loss material and employs PK pins for five prong tube socket mounting. Its construction is such that one electrode position may be varied with relations to the crystal, resulting in smooth frequency change up to and over six kilocycles on 7 megacycles, 24 kilocycles on 14 megacycles. The embossed cover is plainly marked for readjusting the crystal frequency for various settings. The crystal is of the low temperature coefficient type; its frequency drift will not exceed four cycles per megacycle per degree centigrade. Supplied within 5 Kc's of your specified minimum frequency or from dealers' stock. **Net Price \$5.95**
Exact specified frequency. **Net Price 6.95**



TYPE CS1

Here is a New Valpey product which has long been needed by amateurs and commercials.

This unit has combined the equivalent of eight sockets, an eight point switch and a convenient holder for safe keeping of crystals not in use.

It measures 7" x 1 1/2" x 1".

The selector holds eight mounted crystals which are designed for tube socket mounting. Any one of these is available for immediate use by a simple twist of the knob on the front panel. One 3/8" hole and two mounting screw holes are all that need be drilled for mounting.

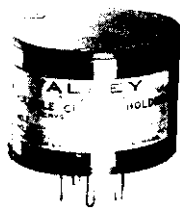
Only two connections connect the entire unit to the oscillator circuit.

Polystyrene insulation and nickel plated metal parts are used in its construction.

Type CS1 Selector—Complete with Dial Plate and Knob
Net Price \$4.95

TYPE VMC4

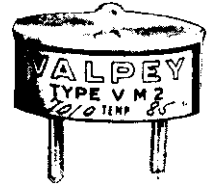
is a multiple crystal holder machined from glossy black bakelite. Four type VC2 crystals may be used in this unit and switched with an external switch. The holder plugs into a standard 5 prong tube socket. A very compact unit measuring 1 1/2" high overall and 2" in diameter.



Net Price \$2.25

TYPE VM2

The crystals used in this unit are very highly active and can be depended upon for instant starting and good output when doubling or tripling to the higher frequencies. An increase in crystal temperature of 10 degrees will result in a maximum frequency change in a negative direction of only about one half kilocycle in the 3.5 Mc band or 1 kilocycle in the 7 Mc band.



Constant spring pressure stainless steel electrodes with rapid heat dissipating features are incorporated in this unit. Molded black bakelite holder for tube socket mounting.

Type VM2—labeled frequency guaranteed accurate to .03% in purchasers' equipment supplied in the 1.7, 3.5 and 7 Mc bands within 5 Kc of frequency specified or from dealers' stock **Net \$3.00**
Exact frequency specified **Net \$4.80**

TYPE LSS

This unit consists of a precision crystal which is free from spurious frequencies. When incorporated in the intermediate stage of a communications receiver results in extreme selectivity necessary for reliable communication on crowded frequencies.

The holder is molded bakelite with aluminum shield cover.

456 - 465 and 500 Kc **Net Price \$5.50**
1600 Kc. **Net Price 7.95**

UNMOUNTED CRYSTALS TYPES VC2 AND VC2A

We recommend that crystals be purchased ready mounted as the accuracy of frequency and the possibility of improper mounting is prevented. However, for those who prefer them unmounted we offer our types VC2 and VC2A.

Type VC2 is X cut for 3.5 and 7 Megacycles and a special cut for 1.7 megacycles. The frequency drift does not exceed 20 cycles per megacycle per degree centigrade.

For 3.5 and 1.7 megacycles the VC2 is one inch square; for 7 megacycles, three quarter inch square is used.

Type VC2A is the same as type VC2, except the crystal is 3/4" wide and 7/8" long. Frequency drift will not exceed four cycles per megacycle per degree centigrade and the crystal will stand higher RF grid current.

Type VC2 supplied within 5 Kc's of your specified frequency in the 1.7, 3.5 and 7 Mc bands . . . **Net \$1.90**

Type VC2 plus or minus 20 Kc's in the 3.5 Mc bands only or from dealers' stock **Net \$1.50**

Type VC2A within 5 Kc's in the 1.7, 3.5 and 7 Mc bands **Net \$2.95**

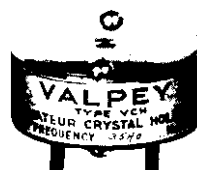
CRYSTAL HOLDER TYPE VCH

The type VCH amateur crystal holder is sold without crystal for amateurs who prefer to use our type VC2 or VC2A crystals. The holder is machined from glossy black bakelite and employs stainless steel electrodes of the fixed spring pressure type. The excellent size proportioning of the electrodes results in quick starting of all crystals.

Type VCH1 for crystals 1" square in the 1.7, 3.5 Mc bands **Net 95c**

Type VCH2 for crystals 1" sq. in the 7 Mc bands, **Net 95c**

Type VCH2 NM for VC2 7 Mc crystals only . . . **Net 95c**



HEADPHONES By C. F. CANNON



THE "CHIEF"—Cannon-Ball Bakelite Headset

The "Chief" is a new addition to the Cannon-Ball family of headsets. There is a demand for a high grade bakelite phone, reasonably priced, and the "Chief" meets this requirement in every respect. It is an inside terminal type. The diameter of the diaphragm is 2 1/2". Bakelite cases and caps. Double coils, two in each receiver. Laminated Chrome Magnets. Braid covered headbands with permanent adjustment and having no removable parts. Cotton covered cord four and one-half feet long.

No. CC-2—2000 ohms D.C. 10000 ohms impedance at 1000 cycles. List Price \$3.75
 CC-3—3000 ohms D.C. 15000 ohms impedance at 1000 cycles. List Price 4.25
 CC-5—5000 ohms D.C. 25000 ohms impedance at 1000 cycles. List Price 5.25
 Leather covered headband in place of the braid band. List 45c extra



THE CHIEF

THE BRANDES "SUPERIOR" MATCHED TONE HEADSET

The Brandes "Superior" headset has been on the market since 1908. It was one of the first headsets available to amateurs. It is the outside terminal type. The diameter of the diaphragm is 2 3/4". Aluminum cases. Black bakelite or aluminum unbreakable caps. Double coils, two in each receiver. Magnets made of chrome magnet steel 3/4" square. It has a stainless steel headband with permanent adjustment and having no removable parts. Cotton covered cord four and a half feet long.

No. BS-2—2000 ohms D.C. 10000 ohms impedance at 1000 cycles. List Price \$3.10

THE BRANDES "ADMIRAL" MATCHED TONE HEADSET

The Brandes "Admiral" phone is of the same general construction as the Brandes Superior but has the terminals on the inside.

No. BA-2—2000 ohms D.C. 10000 ohms impedance at 1000 cycles. List Price \$3.35
 No. BA-3—3000 ohms D.C. 15000 ohms impedance at 1000 cycles. List Price 3.75
 No. BA-5—5000 ohms D.C. 25000 ohms impedance at 1000 cycles. List Price 5.25

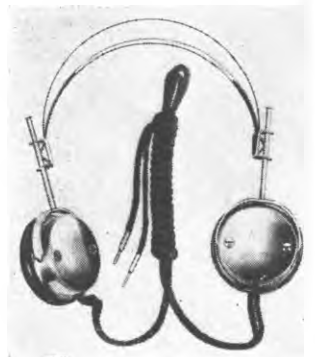
THE "MASTER" CANNON-BALL That Old Reliable Headset

The "Master" Cannon-Ball headset is of exceptional high quality and rugged construction. It is used extensively in institutions, hospitals and prisons, and by radio servicemen and amateurs everywhere. It is of the concealed terminal type. The diameter of the diaphragm is 2 1/2". Aluminum cases. Bakelite or aluminum unbreakable caps. Double coils, two in each receiver. Magnets made of chrome magnet steel 3/4" square. It has a stainless steel headband with permanent adjustment and having no removable parts. Cord is cotton, four and a half feet long.

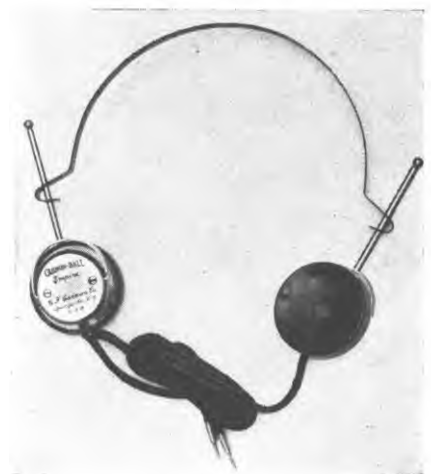
No. MC-2—2000 ohms D.C. 10000 ohms impedance at 1000 cycles. List Price \$3.10
 No. MC-3—3000 ohms D.C. 15000 ohms impedance at 1000 cycles. List Price 3.50
 No. MC-5—5000 ohms D.C. 25000 ohms impedance at 1000 cycles. List Price 5.00



THE SUPERIOR



THE MASTER



THE EMPIRE

THE "EMPIRE" CANNON-BALL New Lightweight Headset

The "Empire" Cannon-Ball is a lightweight, low priced headset, high in efficiency and attractive in appearance. Although it weighs less than six ounces, including headband and cord, it has a large magnet and double coils. It reproduces with clarity and volume equal to most of the larger, heavier and more expensive sets now on the market. It is of the concealed terminal type. The diameter of the diaphragm is 1 3/4". Aluminum cases. Black bakelite or aluminum unbreakable caps. Double coils, two in each receiver.

A round chrome magnet of substantial size insures powerful magnetism. Cotton cords four and a half feet long. Headband is spring steel with adjustable yokes.

No. EC-2—2000 ohms D.C. 10000 ohms impedance at 1000 cycles. List Price \$2.10
 No. EC-3—3000 ohms D.C. 15000 ohms impedance at 1000 cycles. List Price 2.35
 Stainless steel or braid covered band in place of the plain steel. List Price 25c extra



Cannon-Ball Sponge Rubber Headset Ear Cushion

A comfortable, sanitary cushion which will fit over the cap of any headset.
 No. HC-1—

List Price, per pair \$0.42



CANNON-BALL HEADPHONE ADAPTOR

This Adaptor can be attached to any radio set. It has a three-way switch. You can listen with phones or speaker alone or with the phones and speaker together.

No. K-3 — Mounted Adaptor Switch with cord. List Price \$2.40
 K-E 3—Kit complete with Empire phones and switch 4.75
 K-M 3—Kit complete with Master phones and switch 5.75

BRAID COVERED HEADBAND WILL BE FURNISHED WITH THE BRANDES SUPERIOR, BRANDES ADMIRAL, MASTER CANNON-BALL, IF DESIRED WITHOUT EXTRA CHARGE. IF THE BRAID BAND IS DESIRED SPECIFY BRAID BAND WHEN ORDERING.

BRUSH *Crystal Headphones*

All Brush crystal elements are waterproofed and assure exceedingly uniform and impervious protection.

High Fidelity Headphones (A-1)

With the constantly increasing interest in sound transmission and reproduction, there is a much greater demand for really high fidelity headphones. Brush high fidelity phones have achieved a wide acceptance in the fields of sound measurement, audiometry and monitoring. No finer phones are offered on the market regardless of cost. Every phone carefully tested against standard.

General Purpose Headphones (A and B)

Headphones of this classification are used for the most part by radio amateurs, experimenters and radio listeners. Brush general purpose phones have been found so satisfactory from the standpoint of sensitivity, impedance and response, that engineers and technicians find them indispensable for monitoring and laboratory use. In the hard-of-hearing field these phones have

gained wide acceptance. Their low power consumption and high quality of reproduction make them ideal for group installations.

Communications Headphones (BJ)

In communications, the important requirements are dependability, ruggedness, light weight, sensitivity, and the ability to withstand adverse climatic conditions. Brush engineers, after an extended development program, have succeeded in building communications phones which more than meet these requirements.

Hearing-Aid Phones (Miniature Type)

With the advent of miniature vacuum tubes and the tube type wearable hearing aid, marked improvement has been made in the entire art of hearing correction. Brush is now supplying specially designed miniature receivers to leading hearing aid manufacturers.



TYPE "A-1"

HIGH FIDELITY Type "A-1"

- Exceptionally uniform response, 100 to 12,000 c.p.s.
- Free from objectionable peaks.
- Bass compensation.
- Impedance of such high magnitude, over the operating frequency range, that line or circuit characteristics are not affected when monitored by these phones.
- Specially treated fibre diaphragm, eliminating possibility of diaphragm resonance and chatter.
- Headphone case of molded plastic (taupe-gray), designed for comfort and good ear seal.
- Headband of standard construction and conveniently adjustable.

Headset complete with band and 5' cord List Price \$27.50
 Net Wt., 6 oz. Shipping Wt., 2 lbs. Code, Mihif

GENERAL PURPOSE (Type "A")

- Highly satisfactory response 100 to 10,000 c.p.s.
- High impedance plus high sensitivity.
- Molded plastic case (dark red-brown) supported by headband similar to illustration of type A-1.

Headset complete with 5' cord and headband List Price \$9.00
 Net Wt., 6 oz. Shipping Wt., 2 lbs. Code, Millio



TYPE "BJ"

Headset complete with 5' cord and headband List Price \$12.00
 Net Wt., 6 oz. Shipping Wt., 2 lbs. Code, Micom

COMMUNICATIONS (Type "BJ")

- Ruggedness, comfort, good ear seal, and safety against shock assured by molded soft rubber jacket encasing the cartridge.
- Specially protected against adverse climatic conditions by hermetically sealed aluminum cartridge construction.
- All rubber yokeless cord design for greater freedom and comfort (See illustration).
- High impedance and sensitivity.
- Bakelite diaphragm, direct crystal drive.
- Standard adjustable headband.

SINGLE PHONES (With Cord Less Headband)

- Type A-1 with 5' cord List Price \$13.50
 Net Wt., 3 oz. Shipping Wt., 1 lb. Code, Misso
- Type Bj with 5' rubber cord List Price \$5.75
 Net Wt., 3 oz. Shipping Wt., 1 lb. Code, Misij
- Type "A" with 5' cord List Price \$4.25
 Net Wt., 3 oz. Shipping Wt., 1 lb. Code, Missa
- Type "B" with soft rubber sealing ring and 5' cord List Price \$4.50
 Net Wt., 2 oz. Shipping Wt., 1 lb. Code, Misir
- Type "B" without sealing ring, with 5' cord List Price \$4.25
 Net Wt., 2 oz. Shipping Wt., 1 lb. Code, Missib



TYPE "A" SINGLE PHONE WITH HEADBAND

- Generally accepted for individual or group hearing aid and many other applications.
- Light, comfortable, with good ear seal.
- Attractive black finish headband.

Single phone complete with 5' cord and headband List Price \$5.00

Net Wt., 3 oz. Shipping Wt., 1 lb. Code, Milod



TYPE "A" LORGNETTE

- Five inch extension, 12 to 17 inches.
- Attractively finished in telephone black.
- Single "A" phone complete with 5' cord and lorgnette handle List Price \$6.50
 Net Wt., 5 oz. Shipping Wt., 1 lb. Code, Mitme



"HUSHATONE" - Pillow Speaker SS-1J

- Private entertainment for the home, hospital and sanitarium.
- Simply place it under a pillow and enjoy the radio without disturbance to others.
- Easily installed on any type of radio set.
- "Hushatone", with 7' cord List Price \$7.50
 Net Wt., 7 oz. Shipping Wt., 2 lbs. Code, Sepil



TYPE "B" SINGLE PHONE WITH HEADBAND

- Excellent for hearing aid because of extremely light weight.
- Soft rubber ring assures comfort and good ear seal with improved bass response.
- Snap fastener terminals facilitate cord replacement.
- Furnished with or without soft rubber sealing ring.

Single "B" phone complete with headband, 5' cord and sealing ring List Price \$5.25

Net Wt., 3 oz. Shipping Wt., 1 lb. Code, Mibor

Single "B" phone complete with headband and 5' cord, less sealing ring List Price \$5.00

Net Wt., 3 oz. Shipping Wt., 1 lb. Code, Mibbo



LO-LOSS TRANSMITTING INDUCTORS

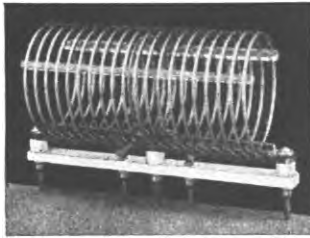
COTO offers a very complete line of highly efficient inductors for All-Band operation. These inductors are wound with bright copper wire, protected from oxidation by a coating of colorless baked enamel and cemented in SLOTS in narrow strips of Cellulose Acetate, (not celluloid). The use of clear enamel, allows the skinning of the wire for taps without marring the appearance of the inductor. Note the "Q" data of each inductor, indicating its high efficiency.

Inductors are available in eight types, covering the Amateur bands from 160 to 10 meters. The "T", "TL" and "TVL" series are designed to handle the output of a one kilowatt amplifier. The "B", "BT", "BTL" and "BTVL" series are intended for oscillator, buffer and low powered stages, not exceeding 300 watts. They are also suitable for constructing Pi-Section networks. The "A" series inductors are for antenna coupling.

LINK COUPLING TYPES

The TANK and Center-Tapped BUFFER types are available with three turn, internally mounted, fixed or rotatable variable link coils. The internal method of mounting, affords mechanical protection for both type links and obviates altering the optimum coupling adjustment in the latter type when band-changing. The advantages of variable coupling over those of fixed coupling are obvious. All link type inductors are mounted on STEATITE bars, equipped with plugs to complete necessary connections, when inserted in proper mounting base listed below.

Standard mounting centers for the various groups of inductors, permit the inter-changing of units for All-Band operation.



TYPE 40TL

"Maximum"
Condenser
Capacity
Recommended

160M
types
75 Mmf.

All others
35 Mmf.



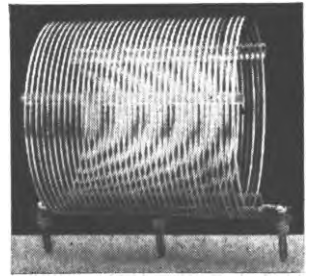
TYPE 80TVL

Mounting
Centers

T, TL, &
TVL
7 1/2"

B, BT,
BTL,
BTVL
5 1/4"

A-4"



TYPE 160BT

Type	Wire Size	No. Turns	Dia.	"Q"	Net
HI-PWR. TANKS					
160T	12	42	5"	480	\$2.34
80T	10	30	4"	500	1.98
40T	10	20	3"	300	1.74
20T	10	10	3"	175	1.38
10T	10	6	2 3/4"	210	1.32
HI-PWR. TANKS (with Fixed Link)					
160TL	12	42	5"	480	\$3.30
80TL	10	30	4"	500	2.94
40TL	10	20	3"	300	2.70
20TL	10	10	3"	175	2.34
10TL	10	6	2 3/4"	210	2.29
HI-PWR. TANKS (with Variable Link)					
160TVL	12	42	5"	480	\$3.90
80TVL	10	30	4"	500	3.54
40TVL	10	20	3"	300	3.30
20TVL	10	10	3"	175	2.94
10TVL	10	6	2 3/4"	210	2.88
ANTENNA					
160A	12	16	5"		\$1.38
80A	10	12	4"		1.23
40A	10	8	3"		.99
20A	10	5	3"		.87

Type	Wire Size	No. Turns	Dia.	"Q"	Net
LO-PWR. TANKS - C.T. BUFFERS					
160BT	14	36	4"	400	\$1.80
80BT	14	34	2 3/4"	390	1.71
40BT	14	22	2 3/4"	270	1.44
20BT	14	10	2 3/4"	200	1.23
10BT	14	6	2 3/4"	180	1.17
LO-PWR. TANKS - C.T. BUFFERS (with Fixed Link)					
160BTL	14	36	4"	400	\$2.76
80BTL	14	34	2 3/4"	390	2.67
40BTL	14	22	2 3/4"	270	2.40
20BTL	14	10	2 3/4"	200	2.19
10BTL	14	6	2 3/4"	180	2.13
LO-PWR. TANKS - C.T. BUFFERS (with Variable Link)					
160BTVL	14	36	4"	400	\$3.36
80BTVL	14	34	2 3/4"	390	3.27
40BTVL	14	22	2 3/4"	270	3.00
20BTVL	14	10	2 3/4"	200	2.79
10BTVL	14	6	2 3/4"	180	2.73
LO-PWR. TANKS - STRAIGHT BUFFERS					
160B	14	36	4"	400	\$1.65
80B	14	34	2 3/4"	390	1.59
40B	14	22	2 3/4"	270	1.29
20B	14	10	2 3/4"	200	1.08
10B	14	6	2 3/4"	180	1.02

HONEYCOMB COILS



Turns	I-I Mh.	Net W. L.	W. L. with .001 Mf.	Net
25	.0781	60.0	3.0	\$.70
35	.0810	92.5	5.32	.30
50	.1519	140.0	7.48	.33
75	.3160	179.0	10.62	.35
100	.5514	268.0	14.38	.39
150	1.2915	312.0	21.50	.42
200	2.279	385.0	28.38	.45
250	3.450	528.0	35.70	.51
300	6.792	672.0	50.75	.57
400	9.00	742.0	57.20	.69
500	14.45	900.0	72.70	.78
600	21.78	1280.0	93.80	.87
700	32.31	1445.0	108.00	.95
1000	60.50	1700.0	146.00	1.14
1200	96.78	2295.0	187.00	1.32
1500	143.00	2825.0	228.00	1.50

STEATITE MOUNTING BASES



These units offer an accurate and convenient jack assembly for receiving COTO Inductors. The bar and insulators are of Steatite. All hardware is of nickel plated brass. Available in 2, 3 and 5 jack combinations.

Type	For Ind. Type	Jacks	Net
CI-8TM	T	3	\$1.14
CI-8TLM	TL, TVL	5	1.20
CI-6BM	B	2	1.08
CI-6BTM	BT	3	1.14
CI-6BTLM	BTL, BTVL	5	1.20



CONTROL WHEELS

In presenting these CONTROL WHEELS, 'Coto' establishes a new vogue in dial and indicator design for Radio Transmitter and Commercial applications where frequent and accurate adjustments must be made. Created to combine the advantages of both the dial and pointer

type controls, it has that professional appearance, so lacking in the former types.

The Control Wheel proper is moulded of genuine mirror-black bakelite and fitted with a polished nickel plated brass pointer mounted unobtrusively under one of the wheel struts.

The dial scale is made of 20 gauge aluminum with black anodized finish. Dial markings and border are of polished aluminum, creating a striking contrast. A unique feature is the provision for interchangeable name plates designating the purpose of each control. The name plates are attached to the scale by two escutcheon pins, which also serve to hold the scale to the panel. Name plates are available in the titles listed below, choice of any one plate being included with each complete assembly.

For some applications the complete control with scale may not be required, therefore the wheels with pointers only, are available as listed.

The wheels are equipped with heavy brass inserts for 1/4" shafts. However, the 3/4" wheels can be supplied for 3/8" and 1/2" shafts on special order.

- DIMENSIONS:**
- Bakelite Wheel 3 1/4" Dia., Height 1 5/8"
 - Pointer Radius 1 7/8"; Scale Width 5 1/4"
 - Bakelite Wheel 2 1/4" Dia., Height 1 1/4"
 - Pointer Radius 1 1/4"; Scale Width 3 3/8"

COMPLETE CONTROL WHEELS

- CI-40 (3 1/4" size) NET \$1.50
- CI-45 (2 1/4" size) NET \$1.20

CONTROL WHEELS ONLY

- CI-41 (3 1/4" size) NET \$1.20
- CI-46 (2 1/4" size) NET \$.90



INDICATOR PLATES

For use with the Control Wheels listed above, although these indicator plates may be mounted above 3 1/4" and 2" round meters. Available only in titles listed.

- | | | |
|---------------------|---------------------|--------------------|
| 1. Oscillator | 9. Grid | 15. Class B. Mod. |
| 2. Osc. Plate | 10. Plate | 17. Sp. Amp. Plate |
| 3. Buffer | 11. Tank | 18. Fil. Voltage |
| 4. Buffer Plate | 12. Neutralize | 19. Plate Voltage |
| 5. Doubler | 13. Pwr. Amp. Grid | 20. % Modulation |
| 6. Doubler Plate | 14. Pwr. Amp. Plate | 21. Gain Control |
| 7. Buf. Dblr. Plate | 15. Mod. Grid | 22. Antenna |
| | 16. Mod. Plate | |

- CI-42 (For CI-40) size 1 9/16" x 7/16" NET 9c
- CI-47 (For CI-45) size 1 1/16" x 5/16" NET 9c

STAND-OFF INSULATORS

Made in two sizes, these genuine STEATITE insulators are suitable for mounting apparatus clear of absorbing surfaces. Heavy nickel plated brass fittings attached at both ends by 6-32 machine screws. They may be readily removed for special mounting on the core.



- CI-30 Core size 3" x 1/2" - Overall lgth. 3 5/8" NET \$1.18
- CI-31 Core size 1 1/4" x 1/2" - Overall lgth. 1 7/8" NET \$1.12



RF TRANSMITTING CHOKE

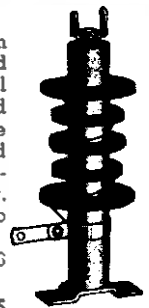
A compact heavy-duty choke for the high power stage. Particularly suited to the 160, 80, 40 Meter bands. Wound with five continuous universal tapered pies on a one-half inch core, three inches long. The effective impedance is high enough to make parallel plate feed practical. The current carrying capacity is conservatively rated at .6 amp. continuous and .8 amp. intermittent service.

Inductance, 3.8 mh.; D. C. resistance, 11 chms; Size 3 3/8 in. x 1 3/8 in. NET \$7.5

RF TRANSMITTING CHOKE

Designed especially to offer maximum impedance at frequencies in the 80, 40, and 20 Meter bands. The pies are universal HONEYCOMB wound for low distributed capacity. This feature together with a unique winding method for obtaining a balanced distributed capacity between pies has resulted in a choke unparalleled in efficiency. STEATITE core and current ratings similar to the CI-20.

Inductance, 1.1 mh.; D. C. resistance, 6 ohms; Size 3 3/8 in. x 1 1/4 in. NET \$7.5



MIDGET RF CHOKE



A popular choke applicable to high frequency receiver construction and low power transmitter stages. Wound on a STEATITE core with four continuous pies, TAPERED to provide maximum impedance and minimum distributed capacity. Fitted with nickel plated caps, permitting either grid leak mounting or soldered connections.

Inductance, 2.5 mh.; current carrying capacity .125 amp.; D. C. resistance 40 chms; Size 1 1/2" x 1/2". NET \$3.36

MASTER RF CHOKE

This unit meets a demand for a choke capable of carrying more current than the popular 125 ma. type. Retaining all the features of the CI-11, it will pass 250 milliamperes without heating. Fine for high frequency transmitter work.

Inductance 2.2 mh.; D. C. resistance 18.5 ohms; size 1 1/2" x 5/8". NET \$4.45



FIVE METER CHOKE

This choke is extremely efficient at the specified frequency. A very compact unit for transceivers, etc., where space is at a premium. Single layer winding on STEATITE capped and pigtailed similar to the CI-11 and CI-12.

NET \$2.4

SHAFT COUPLINGS

Useful wherever controls must be isolated from high voltage. STEATITE insulation provides ample insulation against flashover. Exact alignment of apparatus, not necessary due to slight flexibility of couplers. Absolutely no backlash. Made for 1/4" shafts only.

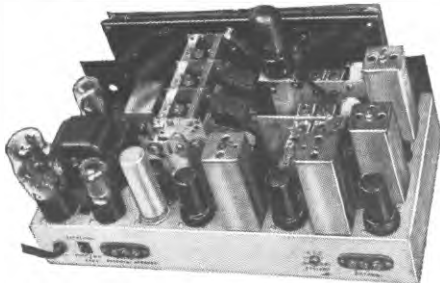
- CI-32 Overall lgth. 3 15/16" NET \$1.48
- CI-33 Overall lgth. 2 3/16" NET \$1.45



HOWARD

COMMUNICATION RECEIVERS

NEW! 1941 Progressive Series



The gleaming copper-plated heavy steel chassis, coated with clear lacquer, is formed and punched in Howard's own factory. Internal R.F. shielding is silver plated, preventing any intercoupling of circuits.

ALL MODELS—TUNED R.F. STAGE ON ALL BANDS

For the first time! Popular priced communication receivers with a stage of **TUNED RADIO FREQUENCY ON ALL BANDS**, using 3-gang tuning condensers. The equal in performance of receivers costing double the price. Every "Ham" and experienced Short-Wave-Listener will appreciate what the addition of a T.R.F. stage means: Improved selectivity, better signal to noise and image ratio, and greatly increased sensitivity.

Designed by the Howard Laboratory, these fine receivers represent an outstanding development in the art of communications. No expense or effort was spared in the design or construction of these fine instruments. All High Frequency R.F. circuits are insulated by ultra-low-loss ceramics (steatite), including coil forms and trimmer bases. Iron core I.F. transformers, specially designed oscillator padding condensers, molded bakelite sockets and many other of the finest developments in radio are used. Silver-plated switch contacts reduce losses to a minimum. Switch action shorts out unused coils for peak efficiency.

Howard Communication Receivers Are Unconditionally Guaranteed to Outperform Any Other Receiver at a Comparable Price.

PROGRESSIVE MODEL "435-A"—7 TUBES

Tuning Range: 540 KC to 43 MC (556 to 7 Meters) →

Designed for Amateur communication work and for Short-Wave Fans who desire reception from all parts of the world. Incorporates all the latest engineering improvements and every desirable basic feature. (See above for special features.) Has built-in 6½" Howard-Jensen electro-dynamic speaker, with connection for an extra external speaker if desired. Headphone jack is provided on front panel. Has Send-Receive switch, AVC Off-On switch, BFO Off-On switch, BFO variable pitch control, AF Gain volume control and Electric Band Spread. Has connections for Doublet or "L" antenna, socket for preamplifier and socket for battery operated power pack.

EXCEPTIONALLY EASY TO TUNE. The experienced radio operator will appreciate the accuracy of tuning and logging signals, the novice and Short-Wave Fan will welcome the ease with which stations are located. The giant 8½" slide rule dial is calibrated directly in megacycles, and has a "band-in-use" indicator at the left side and a 340° band spread dial with 8" coverage at the right for accurate logging. The entire dial assembly is illuminated. Both main tuning and band spread condensers are anti-backlash controlled.

SPECIFICATIONS: Operates from 105-125 volt, 60 cycle AC current. Power consumption, 50 watts. To operate from 6-volt storage battery, use Power Pack 610. Output 2¾ watts maximum. Uses the following tubes: 6SD7GT, T.R.F.; 6SA7, Mixer Osc.; 6SK7, I.F. Amp.; 6SQ7, AVC Det. and 1st A.F.; 6K6G, Beam Power Output; 6J5, BFO; 5Y3G, Rectifier. Entire unit, including 6½" speaker, housed in attractive, sturdy one-piece copper-plated, welded steel cabinet, finished in gray wrinkle enamel. Size, 15¼" wide, 9¼" high, 9" deep. Shpg. wt., 26 lbs.



MODEL "435-A"—Complete with tubes and built-in 6½" Howard-Jensen electro-dynamic speaker. **\$29.95**
Net Price to Amateurs.....

Pacific Coast and Export prices slightly higher.

Model "435-A" can be changed at the factory at any time into a Model "436-A" for only \$12.75 net, or it can be converted to a Model "437-A" for only \$27.55 (\$35.05 complete with crystal). Conversion charges include complete realignment of receiver at the factory.



MODEL "436-A"—Complete with tubes and built-in 6½" Howard-Jensen electro-dynamic speaker. **\$39.95**
Net Price to Amateurs.....

Pacific Coast and Export prices slightly higher.

PROGRESSIVE MODEL "436-A"—8 TUBES

All the features of the Model 435-A listed above are included in this new 8-tube communication receiver, **PLUS AN AUTOMATIC NOISE LIMITER and INERTIA TUNING KNOBS.** Provides greater noise-free enjoyment. Excessive QRN caused by auto ignition, diathermy machines and other sources of high frequency interference is effectively minimized. Howard Inertia Knobs provide fast "fly-wheel" tuning. Knobs are spun when "looking over the band," or provide slow smooth adjustment when hunting DX. Physical and electrical characteristics are identical to the Model 435-A: Tunes 4 bands, from 540 KC to 43 MC (556 to 7 Meters) continuously without skip bands; has a stage of **TUNED RADIO FREQUENCY ON ALL BANDS.** Has the same controls as "435-A," plus the noise limiter Off-On switch.

SPECIFICATIONS: Operates from 105-125 volt, 60 cycle AC current. Power consumption, 50 watts. For operation from 6-volt storage battery use Power Pack 610. Tube complement, same as Model 435-A, plus 6H6 for noise limiter. Cabinet, identical in size and construction to Model 435-A. Shipping weight, 27 lbs.

Model "436-A" can be converted into Model "437-A" for only \$17.05 (\$24.60 complete with crystal). Price includes a complete realignment of receiver.

AMERICA'S OLDEST RADIO MANUFACTURER

HOWARD

COMMUNICATION RECEIVERS

PROGRESSIVE MODEL "437-A," 9 TUBES

Equipped with Crystal Filter and 2 I.F. Stages

The finest of all moderately priced communication receivers. Has all the features of Models "435-A" and "436-A." Plus Crystal Phasing Control and Two Iron Core Transformer I.F. Stages. Weak signals from far off places are whipped in with surprising strength and clarity through the most troublesome QRN. The Short-Wave Fan and Communication Operator will get a real thrill out of the ease with which stations are located and then logged.

Maximum Sensitivity, Selectivity and Stability for nine tube receivers are achieved through the use of the finest parts obtainable and the incorporation of latest engineering improvements. Superhet circuit has a stage of Tuned Radio Frequency on all bands and two Intermediate Frequency stages. Has built-in Noise Limiter that practically eliminates disturbances from auto ignition and other electrical apparatus, and squelches static by cutting off signals having modulation above 85%.

Crystal Phasing Control permits eliminating all unwanted signals, either phone signals 2000 cycles away or CW that is only a few cycles off resonance. (Note: It is recommended that crystal be purchased with receiver to insure proper alignment.)

Easy to Tune and Log Stations. The giant 8 1/2" slide rule main tuning dial is calibrated directly in megacycles, making it simple for even the novice to quickly locate the desired station. A "band-in-use" indicator is located at the left of the tuning scale, and at the right is a 340° band spread dial with 8" coverage. The entire tuning assembly is well illuminated. Both the main tuning and the band spread condensers are equipped with Howard Inertia Knobs for fast "fly-wheel" tuning.

Has Every Control Necessary for perfect operation. In addition to the controls used on Models "435-A" and "436-A" (see previous page), the "437-A" has the Crystal Phasing Control, Crystal In-Out Switch and R.F. Gain Control.

Specifications: Operates from 105-125 volt, 60 cycle AC current. Power consumption, 60 watts. Tube complement, same as Model "436-A," plus one additional 6SK7 I.F. Amplifier. Cabinet, identical in size and construction to Models "435-A" and "436-A." Shipping weight, 28 pounds.



MODEL "437-A"—Complete with tubes and built-in 6 1/2" Howard-Jensen electro-dynamic speaker. Less Crystal. **\$54.50**
Net Price to Amateurs.....

MODEL "437-A"—As above but complete with crystal. Net Price to Amateurs.....\$62.00
Pacific Coast and Export prices slightly higher.

Model "437-A" is the final receiver in the Howard Progressive series. But those interested in the most complete communication reception equipment can continue to add to their station by adding the Preamplifier listed below and the Frequency Monitor and Carrier Level Meter on the next page. The completed station will represent the finest that money can buy.

HOWARD RECEIVERS FOR SPECIAL APPLICATIONS

Special Operating Voltages and Frequencies

All Howard Radio Receivers and self-powered accessories listed on these pages are available for operation on voltages other than the standard 105-125, and frequencies other than 60 cycle. Prices are \$5.00 higher per unit than the standard price.

With 750 to 200 Meter Band

All Howard Progressive Communication Receivers are available with the 750 to 2000 meter (150 KC to 400 KC) band at \$5.50 extra. The receiver tunes four bands: 750 to 2000 meters, 545 to 176 meters, 176 to 54 meters and 54 to 16.6 meters.

PROGRESSIVE MODEL "650" PREAMPLIFIER

Adds 2 High Gain Tuned R.F. Stages to Any Radio

Easily connected to almost any radio by means of the low-loss cable which is supplied. Adds six distinct outstanding advantages:

(1) **Greatly Increased Signal Strength.** Operators will be amazed at the additional wallop. Signals that could not be heard before will roll in with clarity and strength.

(2) **Higher Image Ratio.** The two high gain R.F. stages make it possible to practically eliminate any image.

(3) **Better Signal to Noise Ratio.** Proper setting of the R.F. gain control will in many cases of "heavy noise bombardment" provide a readable signal that might otherwise be lost.

(4) **Increased Selectivity** is of course provided. A complete new set of controls is added to the receiver for eliminating unwanted signals or noise, this in addition to the great increase in selectivity by the two R.F. stages.

(5) **Directional Loop Tuning.** Manipulating the loop so that it points directly at the station to be received will often eliminate troublesome interference. Also makes locating signals easier when direction of station is known.

(6) **Use Doublet or "L" Antenna Also.** A switch on the front panel of the Preamplifier permits rapid changing from the loop to an outside aerial. Another switch cuts out Preamplifier entirely and outside antenna is fed directly into receiver. No loop is necessary if directional tuning is not desired.

The "650" Preamplifier tunes four bands, from 540 KC to 43 MC (556 to 7 Meters). Uses two high gain 1853 tubes in two stages of tuned radio frequency, using a three gang tuning condenser. Has built-in power supply that uses a type 80 rectifier. Giant slide rule dial is calibrated directly in megacycles with "band-in-use" indicator at left side. Entire tuning assembly is well illuminated. Howard inertia tuning knob permits smooth "fly-wheel" tuning. Unit is housed in an attractive welded steel cabinet, finished in baked-on black wrinkle enamel. Cabinet size, 13" x 9 1/4" x 9". For operation on 105-125 volt, 60 cycle AC current. Shipping weight, 20 lbs.

MODEL "650" PREAMPLIFIER—Complete with three necessary tubes. (No loop antennas are included.) **\$29.95**
Net Price to Amateurs.....

DIRECTIONAL LOOP ANTENNAS
Efficient loop antennas for use with the above Preamplifier. (L11 and L12 are formed from hard-drawn brass rod, chromium plated.)

MODEL	BAND COVERED	NET
L14	540 KC to 1700 KC	\$2.50
L13	1700 KC to 5500 KC	2.50
L12	5.5 MC to 22 MC	2.50
L11	27 MC to 34 MC	2.50
KIT 655 Contains one each of the above four loops covering all bands.		
Net Price to Amateurs.....		\$7.50



AMERICA'S OLDEST RADIO MANUFACTURER

HOWARD Progressive Series Plan

Provides This Entire IDEAL RECEIVING LAYOUT

for Only **\$138³⁵**



If you want the best receiving layout your money can buy . . . this is the sure way to get it. The various accessories shown above can be bought at any time or as you progress from one receiver model to another. The complete 15 tube *Ideal Receiving Layout* gives you three R.F. Stages, four tuned R.F. Circuits, two Iron Core I.F. Stages and directional

Loop Operation! Complete HOWARD layout: 437-A Receiver —with crystal and Carrier Level Meter; 650 Pre-amplifier with set of loop antennas; 660 Frequency Monitor and 3-820 External Speaker. . . . \$138.35. (Export and Pacific Coast prices slightly higher.)

ACCESSORIES ADAPTED TO PROGRESSIVE SERIES MODELS

FREQUENCY MONITOR

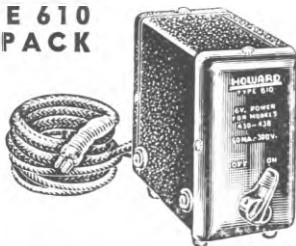
Provides a highly accurate means of frequency measurement for pre-set tuning, logging or locating a station. Complete coverage is provided for the 10, 20, 40, 80 and 160 meter bands. Coupling to any type or make of receiver is easily accomplished. Contains its own well filtered power supply. Finish is black wrinkle to match other Progressive Series units. Dimensions, 7" x 9 1/4" x 9". Shipping wt. 20 lbs.



Type 660—Frequency Monitor for operation on 105-120 volt, 60 cycle AC supply. . . . \$18.95

HOWARD TYPE 610 "B" POWER-PACK

For conversion of 6 volts DC to 300 volts DC for operation of HOWARD Progressive Series, the Type 610 Power-Pack is convenient, practical and efficient. The output of 60 m.a at 300 volts provides ample "B" power. A four prong plug fits the socket on back of receivers, carrying both "A" and "B" power to the set. Only two connections from the power-pack to the storage battery are required. Ample length of cable is provided. Total power consumption equivalent to an auto radio of similar size. On and off switch on power unit. Dimensions of case 6" x 5 5/8" x 3" deep. Net wt. 5 1/2 lbs. Shipping wt. 7 lbs.



Type 610—Power-Pack with instructions. . . . \$12.50

Howard reserves the right to make changes in design or add improvements to their instruments without incurring any obligation to install same in any instrument previously purchased.

CARRIER LEVEL METER

This relatively new instrument to the amateur communication field provides an accurate means of measuring the actual carrier input signal strength delivered to the receiver in terms of the laboratory standard—the microvolt. The actual measurement of a signal is easy to obtain. Uses 7E7 tube. The meter scale is illuminated through the meter when turned on. Due to the accuracy of this instrument it must be built into the receiver at the factory. This may be done either at the time of receiver purchase or later.



Type 605 in models 435, 436, 437. . . . \$12.00
Type 605-A in models 435-A, 436-A, 437-A. . . . \$12.00

HOWARD 3-820 EXTERNAL SPEAKER

8" permanent magnet type dynamic with 5 ft. cable and special terminals to fit HOWARD Progressive Series. Proves valuable addition where extra tone quality and high volume are desired. Finished in black wrinkle baked-on enamel. Dimensions: 9" x 9" x 8 1/2". Shipping wt. 10 lbs.



Type 3-820 External Speaker \$7.95



HOWARD INERTIA KNOB

"Fly-Wheel" Tuning For Any Radio

Can be placed on main tuning or band spread shaft of any receiver to provide true "fly-wheel" tuning. Simplifies and increases accuracy of tuning—gives that "roller bearing" touch. 2" dia.—fits 1/4" shafts. Black finish. Shipping wt. 2 lbs. Net price. . . . \$4c

AMERICA'S OLDEST RADIO MANUFACTURER

HOWARD Model "490"

14 TUBE COMMUNICATION RECEIVER

- 540 KC—43.5 MC
- 2 Stages R.F. Preselection
- Calibrated Band Spread
- Air-Tuned I.F. Transformers
- Variable I.F. Selectivity
- Temperature Compensated Oscillator
- Split Stator Ceramic Insulated Tuning Condensers
- Variable Fidelity Audio
- Push Pull Output—8 Watts
- Automatic Noise Limiter



The HOWARD 490 is the result of years of engineering and development. New standards of performance were set and are now available in the 490 for the first time outside of laboratory equipment.

\$149⁵⁰

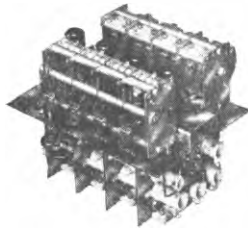
Complete with 14 Tubes,
External Dynamic Speaker
to Match and Crystal Filter

These Specifications Tell Their Own Performance Story

Two Stages R.F. Preselection: The special high frequency R.F. coils, designed for both stages of preselection, take full advantage of the 6AB7 (1853) tubes to secure a good signal to noise ratio. The maximum in sensitivity, selectivity and image ratio is assured on all 5 bands.

Temperature Compensated Oscillator: The temperature compensated oscillator circuit reduces receiver drift and increases its overall stability. Oscillator coil forms are of ceramic insulation. Special ventilation screens on sides, top and back of receiver provide adequate heat dissipation.

Fully Shielded Coil and Condenser Assembly: The entire coil and variable condenser system including trimmers, resistors, switches, tubes, etc., is ruggedly mounted and shielded as one unit on its own chassis. Split stator on main condenser gang provides favorable L/C ratios on all bands.



New Efficient Noise Limiter: The noise limiter is very effective in cutting through frequent and irregular automobile ignition interference and reducing electrical and atmospheric disturbances.

Carrier Level Meter: Provides an accurate indication of the strength of the signal carrier in microvolts and "S" readings as delivered to the receiver. An individual correction factor chart for exact microvolt readings on all bands accompanies each receiver.

Variable Selectivity Air-Tuned I.F. System: The two stage iron core I.F. system is provided with five fixed selectivity positions which enable the operator to obtain nine selectivity degrees. A polystyrene insulated crystal holder assures maximum crystal selectivity.

Variable Fidelity Audio System: In the normal position the audio system is substantially flat from 30 to 10,000 cycles. The exclusive HOWARD Audio Control System allows cutting off of frequencies at either the high or low ends of the audio spectrum or peaking at 1600 cycles. Signals which are covered by heterodynes and noise can easily be copied through the use of this unique audio arrangement.

Dials, Tuning and Band Spread: The 80, 40, 20 and 10 meter bands are accurately calibrated on the band spread dial. The easy to read calibrations on the metal drum type dials are indirectly illuminated. Fast, smooth and accurate tuning control is achieved by the exclusive HOWARD Inertia Tuning System and indirect cable drive mechanism.

Chassis, Cabinet, Panel, etc.: The chassis, cabinet and all component parts are constructed of heavy drawn, welded and copper plated steel. Heavy girder type bracing assures absolute rigidity. Cabinet and panel is finished in beautiful blue-grey wrinkle trimmed in satin silver. Panel is 19" wide for rack mounting. Standard models designed for 105 to 125 volts, 60 cycle, AC operation. Universal supply voltage AC models for 25-60 cycles, 105-230 volts, \$9.00 extra. Model 490 for rack and panel installation with dust cover, \$6.00 extra.

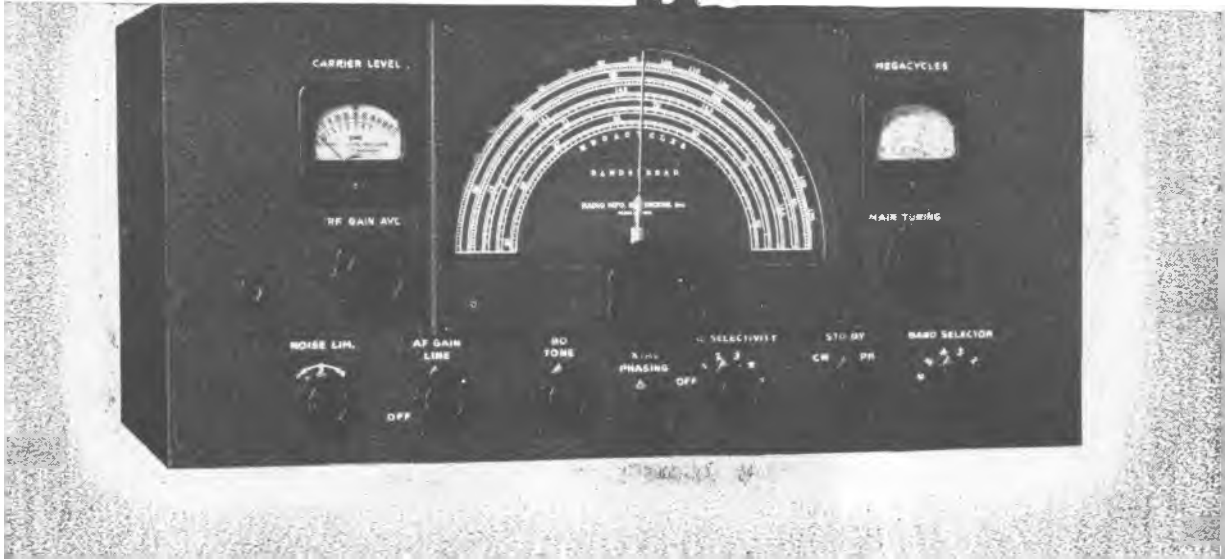
Write for FREE Technical Manual. Has complete circuit details and data for Model "490," including Selectivity, Sensitivity, Image Ratio and Fidelity Charts. Explains in detail the art of receiver measurements.

Tube Complement: 6AB7 (1853)—1st R.F.; 6AB7 (1853)—2nd R.F.; 6SA7—1st Detector-Mixer; 6SA7—H.F. Oscillator; 6SK7—1st I.F.; 6SK7—2nd I.F.; 6H6—2nd Detector—A.V.C.—Noise Limiter; 6SF5—1st Audio-Driver; 6J5—Phase Inverter; 2-6K6's—Push Pull Output; 6J5—B.F.O.; 7E7—Carrier Level Meter Amplifier; 5Y3G—Rectifier.

Dimensions: 11" high x 21½" long x 13½" deep.

Weight: 50 lbs. net. Domestic shipping weight 57 lbs.

AMERICA'S OLDEST RADIO MANUFACTURER

RME
TIME WILL TELL**RADIO MFG. ENGINEERS**
INCORPORATED**RME**
TIME WILL TELL*The*
RME-99**TOMORROW'S
RECEIVER
TODAY!**

A fine communications instrument

- FULL VISION ACCURATELY CALIBRATED 8" BANDSPREAD DIAL
- SIX POSITION LINEAR CRYSTAL SELECTIVITY CONTROL
- ILLUMINATED CALIBRATED R-DB SIGNAL INTENSITY METER
- AUTOMATIC NOISE LIMITER WITH MANUAL ADJUSTMENT CONTROL
- NEW HIGH EFFICIENCY LOKTAL TYPE TUBES INCORPORATED
- VR150 TYPE VOLTAGE REGULATOR TUBE USED AS STABILIZER
- NEW TYPE OSCILLATOR CIRCUIT FOR STABILIZED RECEPTION
- A SPECIAL HIGH FREQUENCY TUNING CONDENSER INCORPORATED
- CAST ALUMINUM CHASSIS FRAME AS A FOUNDATION UNIT
- OVER-SIZED POWER COMPONENTS FOR YEARS OF SUPERIOR RECEPTION

The RME-99 fine communication receiver has been designed to provide a maximum in high frequency reception performance. Its complement of operating capabilities include every worthwhile feature desired by the commercial and amateur operator, with several added innovations permitting even smoother and more precision operation than ever before.

This instrument incorporates 12 tubes in an electrical circuit of unusual characteristics; 10 of the 12 tubes are of the Loktal type which permit excellent high frequency tuning. The tube line-up includes: 7A7 tuned r.f. stage, 7B8 1st det., 7A4 osc., 7A4 b.o., 3-7A4 i.f., 7F7 2nd det., 7A6 noise limiter, 7C5 a.f., VR150 regulator, and 80 rectifier.

Proper L C ratios, wide spacing of condenser plates, cast aluminum foundation frame, and constant voltage regulation account for exceptional stability in this receiver. The RME-99 introduces an innovation in noise limiters; in this unit an automatic noise suppressor is provided which may be adjusted from the front panel to respond most effectively on received signals of any modulation up to and including 100 per cent.

The tuning range of the "99" is 540 to 33,000 kilocycles in six bands, it has 4 watts of audio output at either 4,000 or 600 ohms, standby switch, headphone jack, calibrated R-DB meter, and uniform operating characteristics over the entire range covered.

The RME-99 receiver housed in steel cabinet, 19" x 10½" x 9", gray or black crinkle finish, 465 KC crystal, set of 12 tubes, 8" PM dynamic speaker in gray or black baffle, 105-125 volt, 50-60 cycle model.

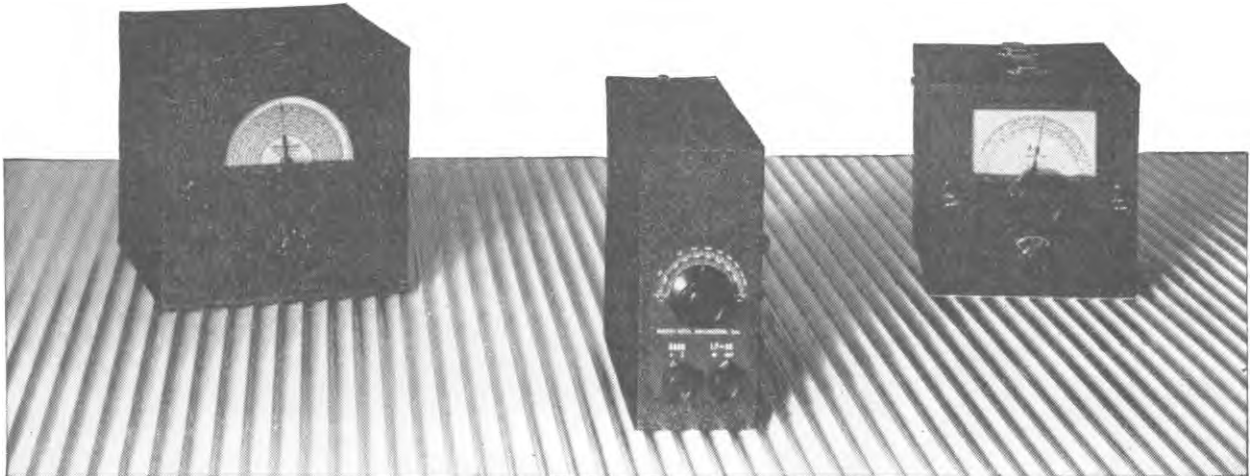
Code: FAMOS List \$232.00 . . . Net \$139.20

Same as FAMOS but for B battery and 6 volt storage battery operation.

Code: FINAR List \$232.00 . . . Net \$139.20

RELAY RACK MODELS AVAILABLE. PRICES ON REQUEST.

RME ACCESSORY UNITS PORTABLE RECEIVING EQUIPMENT



DB-20

PRESELECTOR

The addition of the DB-20 PRESELECTOR will improve the operating characteristics of any standard communications receiver enormously. Its addition adds 2 stages and 3 tuned circuits of radio frequency amplification ahead of the instrument.

Using 2-6K7 tubes in a high gain and completely stable circuit, this unit provides a signal step up of over 25 db operating on all frequencies from 550 to 32,000 kilocycles; at the same time it increases the ratio between signal and image until, at a 14 megacycle operating frequency this proportion becomes 50,000 to 1.

Contained in one cabinet, 9¼" high, 9½" wide, and 10½" deep, finish — black or gray crinkle — power supply incorporated, antenna changeover switch, velvet smooth planetary tuning control, and 6 position band change switch.

DB-20 complete with tubes and interconnecting plug and cable, ready for operation from 110-120 volt, 50-60 cycle source. Code: MONEL. List \$74.00 Net \$44.40

DB-20-70 (to match the 70 type receiver). Code: MOSAR. List \$74.00 Net \$44.40

LF-90

INVERTER

The LF-90 is a conversion unit designed for the purpose of expanding the tuning range of a standard radio receiving set to include reception of signals in the 90 to 608 kilocycles band. The only prerequisite for using the LF-90 for this purpose is that the receiver to be converted, must be capable of tuning to a conversion frequency of 1550 KC.

The LF-90 is ideal for simple and economical reception of low frequency signals such as beacon stations, weather reports, aircraft, and ship-to-shore radio telephones. Its gain is about 15 db over that of a standard receiving set. Its selectivity is quite adequate for the requirements of this type of reception.

This unit is of small size neatly housed in a black or gray metal cabinet measuring 4" wide, 9¼" high, and 10½" deep. It has its own power supply, uses two tubes, a 6K8 and a 6ZY5G, and is provided with a convenient antenna changeover switch.

LF-90 complete with tubes and interconnecting plug and cable, ready for operation from a 110-120 volt, 50-60 cycle source. Code: LIFER. List \$34.00.....Net \$20.40

ME-14AM

PORTABLE RECEIVER

The ME-14AM is a completely self-contained, self-powered superheterodyne receiver using 6 low drain battery type tubes, including a 1N5G r.f. amplifier, 1A7G detector and oscillator, 2-1N5G i.f. amplifiers, 1D8GT second detector and audio amplifier, and a 1N5G beat oscillator. Range covered includes 180 to 4100 kilocycles in 3 bands. Audio output with a 15 foot antenna is 100 milliwatts, however, perfectly satisfactory operation is obtained using antenna lengths as short as 3 feet. Batteries required for portable operation include 2-45 volt blocks (Burgess No. Z3ON) and 1-1.5 volt block (Burgess No. 2FBP); external power of 90 volts @ 11½ milliamperes, and 1.5 volts @ 0.3 amperes may be used through a connecting plug conveniently located on the rear chassis apron.

The size of this unit measures 8" wide, 8¼" high, and 8½" deep. Its weight complete with self-contained batteries and tubes ready for operation is only 11 pounds. It is provided with a convenient carrying handle for easy transportation.

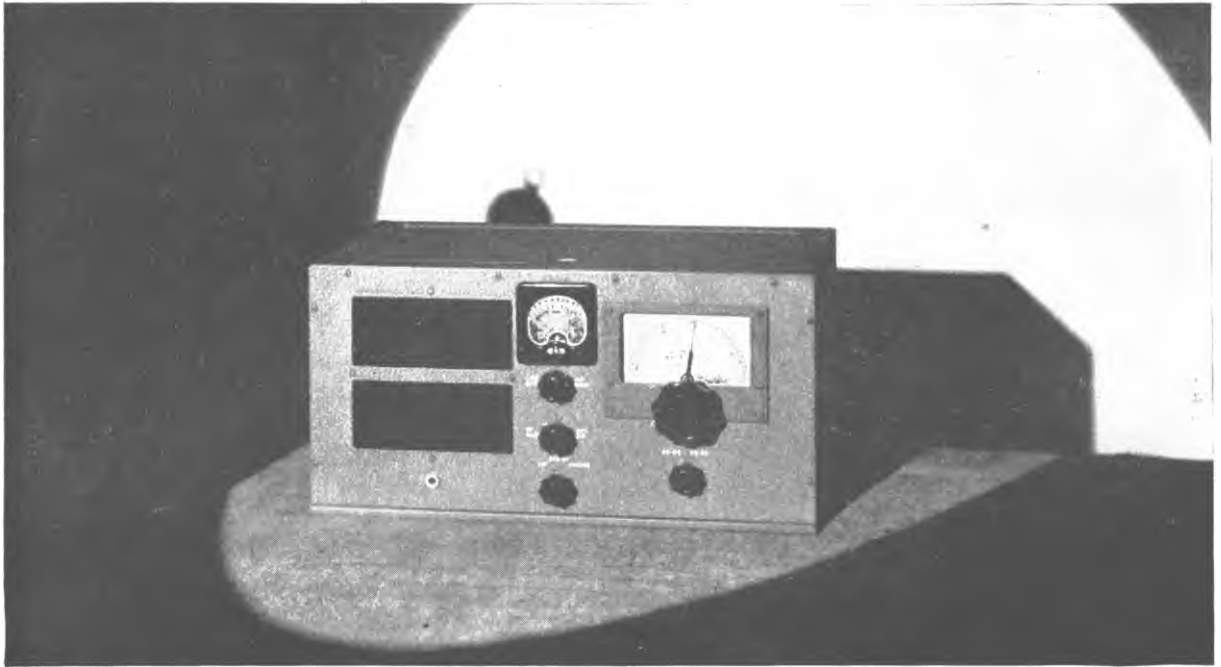
ME-14AM with tubes but less batteries. Code: MALAM.

List \$79.00 Net \$47.40
Set of batteries for code MALAM. Code: MEANT. List \$9.00 Net \$5.40

RME
TIME WILL TELL**RADIO MFG. ENGINEERS**
INCORPORATED**RME**
TIME WILL TELL

ULTRA-HIGH FREQUENCY RECEIVERS

for **AMATEUR** and **COMMERCIAL USE**



HF-10, for 5 and 10 meters

The HF-10 receiver is a communications instrument using 11 tubes in a high gain and sensitive circuit, and tunes 2 amateur bands, 28-30 and 56-60 megacycles.

This receiver is complete in itself. A speaker, illuminated R-db signal meter, power supply, and receiving unit are all mounted in one steel cabinet measuring 19" long, 10½" deep and 9¼" high. Tubes used in this receiver are: 1852 tuned r.f., 6SJ7 first detector, 6J5 oscillator, 6SK7 first i.f., 6SK7 second i.f., 6H6 second detector, 6Z7G noise limiter, 6J5 beat oscillator, 6J7 first a.f., 6F6 a.f. output, and 80 rectifier.

This receiver is ideal for 5 and 10 meter amateur reception, phone or CW, since it has an unusually low background noise level, a high uniform sensitivity, exceptional stability, and many additional features such as a beat oscillator, and complete bandspread for real operating convenience. The image to signal ratio in this receiver is quite favorable since its intermediate frequency is of the order of 1550 kilocycles.

This receiver complete with tubes, speaker, ready for operation from 110-120 volt, 50-60 cycle current is priced at only:

Code: HOFER List \$138.00 — Net \$82.80

The above receiver may be had for operation from a 6 volt DC source at a slightly higher price. This model comes complete with tubes, speaker, and self-contained vibrapack. Code: HAMER List \$169.00 — Net \$101.40

HF-30X, 27.8-60.3 mc.

The HF-30X model receiver is a commercial model of the HF-10 amateur band receiver. This receiver tunes the complete range, 27.8 to 60.3 megacycles. This is done in 2 bands: (1) 27.8 to 41.5, and (2) 40.8 to 60.3 megacycles. With the exception of the tuning range this model is identical to the HF-10.

The HF-30X with its many unusually fine operating characteristics, assures reception performance which adequately fulfills the needs of police radio services, portable pick-up stations, aircraft services, and forestry stations. This unit has been constructed in a unique manner which gives it rugged possibilities for reliable operation. The power and r.f. units are built on separate chassis; this eliminates the possibility of instability creeping into the operation of this receiver.

The HF-30X is complete in one cabinet 19" long, 10½" deep, and 9¼" high, thus providing convenience so necessary in using a receiver of this type.

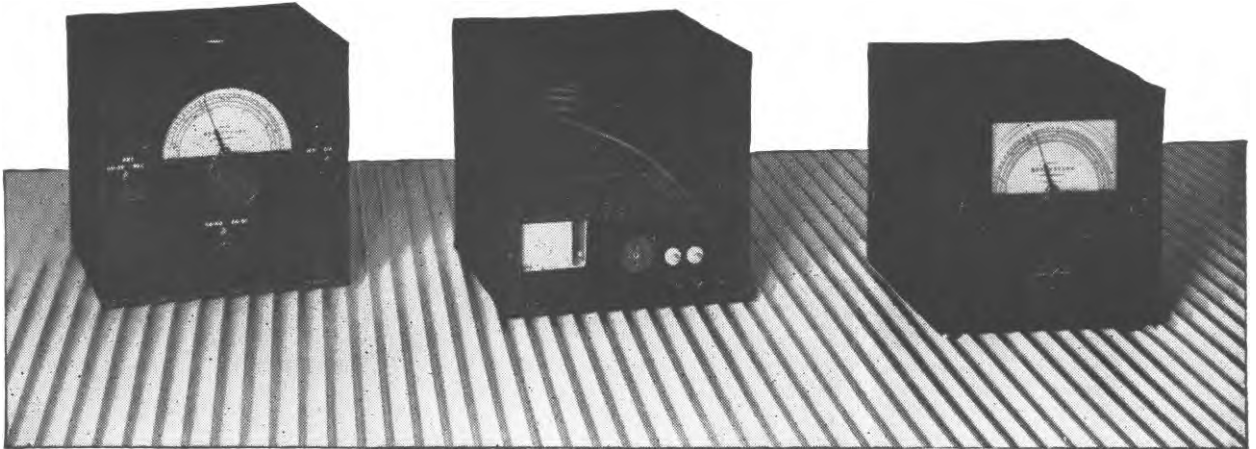
The HF-30X complete with tubes, speaker, ready for operation from 110-120 volt, 50-60 cycle current is priced at only:

Code: HOGAR List \$138.00 — Net \$82.80

The above receiver may be had for operation from a 6 volt DC source at a slightly higher price. This model comes complete with tubes, speaker, and self-contained vibrapack. Code: HODIN List \$169.00 — Net \$101.40

THE ABOVE RECEIVERS MAY BE HAD FOR RELAY RACK MOUNTING. QUOTATIONS ON REQUEST.

Ultra high frequency BAND EXPANDERS



DM-36

Amateur Band Tuning

5 and 10 meters

The DM-36 unit has been designed for the purpose of receiving 5 and 10 meter signals when used in conjunction with a standard communications receiver. It consists of 4 tubes in a high gain and stable circuit, has complete band spread on both bands tuned, and is entirely self-contained with its own power supply. Tubes used in this unit are an 1852 r.f. stage, 6SJ7 detector, 6J5 oscillator, and 80 rectifier.

This unit finished in either black or gray cabinet, 9 1/4" high, 9 1/2" wide, and 10 1/2" deep is complete with tubes, changeover switch and interconnecting plug and cable. (This unit has a 10 MC conversion frequency as standard, a 7 MC frequency may be had on special request at no additional cost). For 110-120 volt, 50-60 cycle operation.

Code: GALOP (to match the 69 type receiver)

List \$69.50 **Net \$41.70**

Code: GALOP (70) (to match the 70 type receiver)

List \$69.50 **Net \$41.70**

DM-30X

Full Coverage Tuning

27.8-60.3 mc.

The DM-30X is an EXPANDER unit designed for the purpose of extending the tuning range of a standard communications receiver to include reception of signals located in the range 27.8 to 60.3 megacycles. This unit is entirely self-contained and does not depend on its companion receiver for power. The DM-30X uses 4 tubes including the rectifier. These are: 1852 r.f. stage, 6SJ7 detector, 6J5 oscillator, and 80 rectifier. Output frequency is 1550 kilocycles.

Finished in either black or gray cabinet, 9 1/4" high, 10 1/2" deep, and 9 1/2" wide, complete with tubes, antenna changeover switch, and interconnecting plug and cable for 110-120 volt 50-60 cycle operation.

Code: GOGAN (to match the 69 receiver)

List \$69.50 **Net \$41.70**

Code: GOGAN (70) (to match the 70 receiver)

List \$69.50 **Net \$41.70**

EXPANDERS FOR MOBILE RECEPTION

DM-36A 5 and 10 meters

This unit provides reception of 5 and 10 meter amateur stations when used in conjunction with a standard broadcast automobile receiver. It has an output frequency of 1550 kilocycles, incorporates an antenna changeover switch and may be equipped for either vibra-pack or "B" battery operation. Cabinet size measures 8 1/2" wide, 8 3/8" high, and 10 3/8" deep. It uses an 1852 r.f. stage, 6SJ7 detector, and 6J5 oscillator.

The DM-36A complete with tubes, interconnecting plug and cable for "B" battery operation, but less batteries.

Code: DOMER

List \$56.00 **Net \$33.60**

DM-36A for vibra-pack, 6 volt DC operation complete with tubes and self-contained vibra-pack. Code: DARAT

List \$86.00 **Net \$51.60**

DM-30XA 27.8-60.3 mc.

This unit is designed to permit reception of the range 27.8 to 60.3 megacycles when used in conjunction with a standard broadcast automobile receiver. It has an output frequency of 1550 kilocycles, comes equipped with a vibra-pack for 6 volt DC or may be had for "B" battery operation, uses an 1852 r.f. stage, 6SJ7 detector, and 6J5 oscillator. Its cabinet measures 8 1/2" wide, 8 3/8" high, and 10 1/2" deep.

The DM-30XA complete with tubes, interconnecting plug and cable for "B" battery operation (less batteries).

Code: GOTER

List \$56.00 **Net \$33.60**

The DM-30XA for vibra-pack 6 volt DC operation complete with tubes and built-in vibra-pack. Code: GORIL

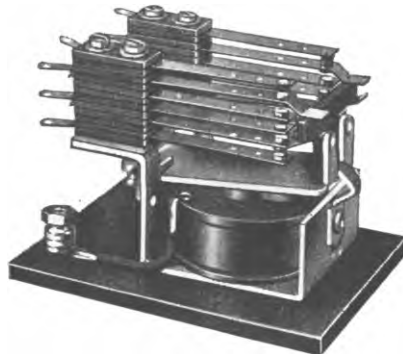
List \$86.00 **Net \$51.60**

Advance RELAYS

GENERAL CIRCUIT CONTROL RELAYS Alternating and Direct Current

These sturdy, compact General Circuit Controls are available for operation on both alternating and direct current—Series 100 and 200 respectively—and incorporate many superior construction features not usually found in economically priced lines. "Full Floating" armature suspension, "wiping" contacts, and more than adequate insulation are but a few of their highly desirable qualities.

The switch stacks, composed of



Dimensions—3¼" x 2¼"

die-cut, spring phosphor-bronze blades, Bakelite spacers, and hard rubber sleeving, have a break-down test of 2500 volts, and will give a lifetime of service.

Each unit, mounted on a Bakelite base and equipped with binding posts for the coil connections, is entirely "above ground" and all current carrying screws and terminals are fully counter-sunk to prevent any possibility of "short-circuiting."

PRICE CHART—For Series 100 (A.C.) and Series 200 (D.C.) Relays

CONTACT RATINGS:	1/8"	4.5 AMPS. AT 6 VOLTS TO	1.5 AMPS. AT 115 VOLTS
	3/16"	15 AMPS. AT 6 VOLTS TO	5 AMPS. AT 115 VOLTS
	1/4"	30 AMPS. AT 6 VOLTS TO	10 AMPS. AT 115 VOLTS

Contact Combinations	Type Numbers, Contact Sizes and List Prices								
		1/8"		3/16"		1/4"			
		List	Net	List	Net	List	Net		
SINGLE POLE-SINGLE THROW Normally Open	101	\$4.00	\$2.40	101A	\$4.25	\$2.55	101B	\$4.50	\$2.70
SINGLE POLE-SINGLE THROW Normally Closed	102	4.00	2.40	102A	4.25	2.55	102B	4.50	2.70
SINGLE POLE-DOUBLE THROW	103	4.25	2.55	103A	4.50	2.70	103B	5.00	3.00
DOUBLE POLE-DOUBLE THROW	104	4.50	2.70	104A	4.75	2.85	104B	5.25	3.15
DOUBLE POLE-SINGLE THROW Normally Open	105	4.25	2.55	105A	4.50	2.70	105B	5.00	3.00
DOUBLE POLE-SINGLE THROW Normally Closed	106	4.25	2.55	106A	4.50	2.70	106B	5.00	3.00
THREE POLE-SINGLE THROW Normally Open	107	4.50	2.70	107A	4.75	2.85	107B	5.25	3.15
THREE POLE-SINGLE THROW Normally Closed	108	4.50	2.70	108A	4.75	2.85	108B	5.25	3.15
THREE POLE-DOUBLE THROW	109	4.75	2.85	109A	5.25	3.15	109B	6.00	3.60
FOUR POLE—Two Make—Two Break	110	5.75	3.45	110A	6.25	3.75	110B	7.25	4.35
FOUR POLE-SINGLE THROW Normally Open	111	5.75	3.45	111A	6.25	3.75	111B	7.25	4.35
FOUR POLE-SINGLE THROW Normally Closed	112	5.75	3.45	112A	6.25	3.75	112B	7.25	4.35
FOUR POLE-DOUBLE THROW	113	6.50	3.90	113A	7.25	4.35	113B	8.75	5.25
FIVE POLE-SINGLE THROW Normally Open	114	6.75	4.05	114A	7.50	4.50	114B	8.75	5.25
FIVE POLE-SINGLE THROW Normally Closed	115	6.75	4.05	115A	7.50	4.50	115B	8.75	5.25
FIVE POLE-DOUBLE THROW	116	7.50	4.50	116A	8.50	5.10	116B	10.00	6.00
SIX POLE-SINGLE THROW Normally Open	117	7.75	4.65	117A	8.75	5.25	.....	.....	.....
SIX POLE-SINGLE THROW Normally Closed	118	7.75	4.65	118A	8.75	5.25	.....	.....	.....
SIX POLE-DOUBLE THROW	119	8.50	5.10	119A	10.50	6.30	.....	.....	.....

The above chart, listing A.C. Relays, may also be used when ordering D.C. Relays by Changing the Series Number from 100 to 200. To avoid possible errors, always specify the correct A.C. or D.C. input voltage. The Series 100 Coils are obtainable for any voltage from 1 to 115 A.C.—Series 200 Coils for any Voltage from 2 to 60 D.C. Prices for other voltages will be furnished on request.

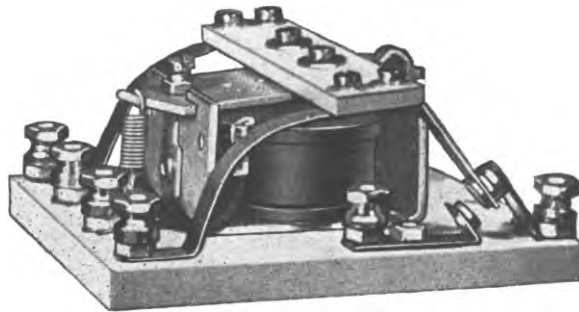
Advance RELAYS

Isolantite model Antenna Change-Over. Designed for use in Amateur Transmitters.

The contact system is Double Pole-Double Throw, using $\frac{1}{4}$ " Pure Silver contacts, with exceptional wiping action. Three and four pole arrangements are available on special order.

For high radio frequency control. Entirely hum-

TRANSMITTER RELAYS



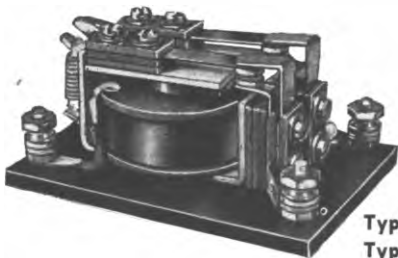
Type 400

free where intended for A.C. operation, and highly efficient on D.C. supplies. All metallic parts are cadmium and chromium plated.

Standard coils are for 110V A.C. and may also be used for 24V D.C. However, they will also be supplied for lower A.C. or D.C. voltages at no increase over the list price of \$9.00.

Net Price\$5.40

KEYING RELAYS

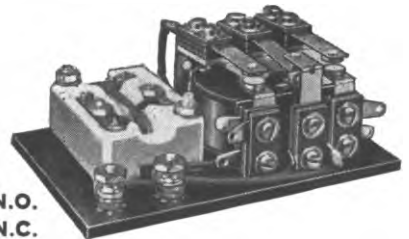


Type 101K—A.C.
Type 210K—D.C.

Designed expressly for use in Keying Circuits where it is desired to use low voltage across the key to control high voltage transmission through the Relay contacts. The heavy duty coil and strong return spring makes possible an exceptional keying speed. Two sets of $\frac{1}{4}$ " Pure Silver contacts in series allow a carrying capacity of 2500 volts. The complete unit, mounted on a $\frac{3}{16}$ " Bakelite base with binding posts for coil connections, has over-all dimensions of 3" x 2" x $1\frac{3}{8}$ " and is obtainable for A.C. operation to 115 volts or D.C. operation to 60 volts at a list price of \$5.00.

Net Price \$3.00

TIME DELAY RELAYS

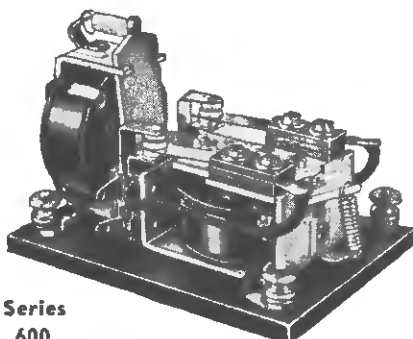


Type 300—N.O.
Type 350—N.C.

Particularly suited for use where short time delays (10 sec. to 1 min.) are required, these Relays are available with both normally open and normally closed thermostats. Types 300 and 350 respectively, the former being widely used for pre-heating tube filaments, etc. The contact combination on both models is Double Pole Single Throw with $\frac{1}{4}$ " Pure Silver contacts. Mounted on $\frac{3}{16}$ " Bakelite bases measuring $3\frac{3}{4}$ " x $2\frac{3}{8}$ " x $1\frac{1}{2}$ " with binding posts for coil connections. Standard operating voltage is 110 A.C. at a list price of \$7.00..... Net Price \$4.20

Low voltage units are available on special order.

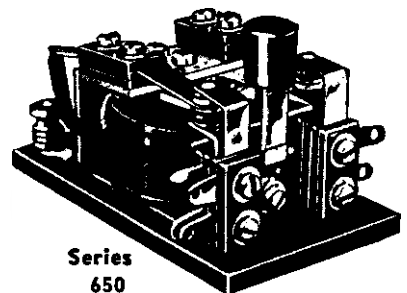
LATCHING RELAYS



Series 600

	List	Net	
Type 604B	\$8.25	\$4.95	Double Pole-Double Throw.....
Type 605B	8.00	4.80	Double Pole-Single Throw (N. O.).....
Type 606B	8.00	4.80	Double Pole-Single Throw (N. C.).....

The above list prices are for $\frac{1}{4}$ " contacts. For $\frac{3}{16}$ " points deduct 25c—for $\frac{1}{8}$ " points deduct 50c. When ordering these types SPECIFY THE VOLTAGE.

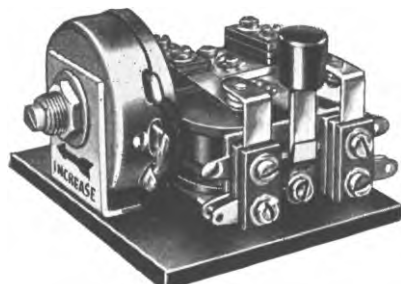


Series 650

	List	Net
Type 654B	\$6.25	\$3.75
Type 655B	6.00	3.60
Type 656B	6.00	3.60

Advance RELAYS

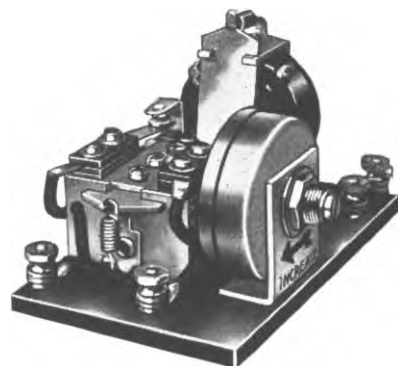
OVERLOAD RELAYS



Type 700

These Relays are designed to provide accurate and positive protection against current surges and continuous overloads, and both the Manual Reset (Type 700) and Electrical Reset (Type 750) are divided into two classifications: Type "A" allows the Relay to attract on any current value between 250 and 500 mills, and Type "B" for any setting between 500 mills and 1 ampere.

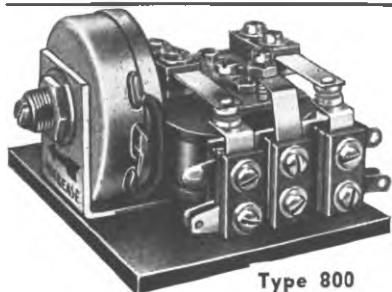
When the current flow passes the safety setting, the Double Pole-Single Throw $\frac{1}{4}$ " Pure Silver contacts are opened, breaking the power supply circuit until reset.



Type 750

	List	Net
Type 700—Base dimensions 3" x 2½"	\$ 8.50	\$5.10
Type 750—Base dimensions 4" x 2½"	11.50	6.90

UNDERLOAD RELAY

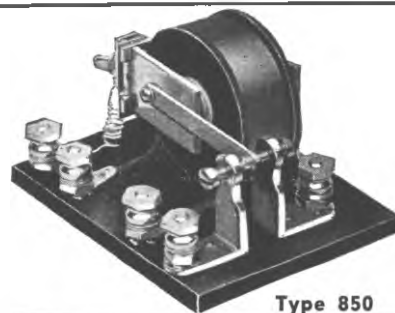


Type 800

This Relay is designed for use as a protective device for "B" modulator tubes and transformers. Loss of excitation in Class "C" tubes decreases the amount of current in the Relay coil, allowing the contacts to break, and open the modulator circuit from the rectifier. This model is also available in two types: 800A being adjustable to close between 150 and 300 mills; 800B between 300 and 500 mills, both of which will function on a 20% underload. Base dimensions are 3" x 2½" and the list price is \$8.50 Net Price \$5.10

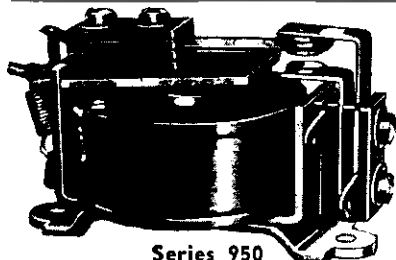
ELECTRONIC RELAY

An ultra-sensitive unit for use in electronic tube circuits, providing positive, dependable control on as little as 12 milliwatts. Adjustment screws to change the air-gap between the armature and the pole face, allow operation on a voltage differential of 30%, a condition ideal for electronic applications. The contact combination is Single Pole-Double Throw, employing $\frac{1}{8}$ " Pure Silver points to safely handle 100 watt non-inductive loads. Obtainable in resistances of 2500, 3000, 5000 and 10,000 ohms at no increase over the list price of \$6.00. Net Price \$3.60



Type 850

GENERAL PURPOSE RELAYS

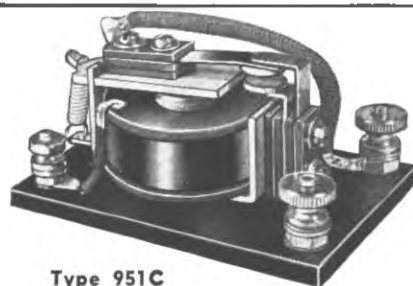


Series 950

These Relays afford maximum power and efficiency at very low cost. $\frac{1}{4}$ " Pure Silver contacts are standard on the Single Pole-Single Throw (N. O.) Type 951B—Single Pole-Single Throw (N. C.)—952B—and Single Pole-Double Throw—953B—switch combinations. Adequately insulated and entirely above "ground," these Relays may be mounted on any type of panel, quickly and easily, by means of the metal mounting bracket. Coils are obtainable to 115V A. C. or 60V D. C. at the one list price of \$3.25 Net Price \$1.95

GEN-E-MOTOR STARTING RELAY

An exceptionally sturdy power transfer Relay, easily capable of handling the heavy current surge encountered on "cold" starts in motor-generator systems. The contacts are $\frac{3}{8}$ " Pure Silver and have ample carrying capacity for the usual 200-500V converters. Heavy-duty in every phase of construction, this unit is not to be compared with the common five and ten ampere circuit controls. Base dimensions are 3" x 2" and each unit is complete with a braided generator-cable pig-tail and binding posts for all connections. Coils for 5½ to 32V D. C. or 1 to 115 A. C. at a list price of \$6.00 Net Price \$3.60

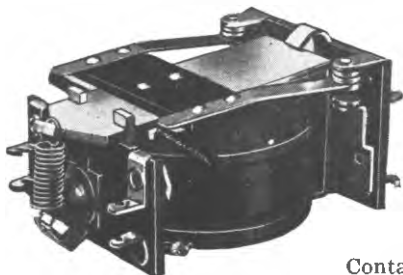


Type 951C

Advance RELAYS

MIDGET TYPE CIRCUIT CONTROLS

These Relays are designed for general circuit control applications where the space for mounting is limited, and measure only 2½" in length, 1½" in width, and 1¼" in height. A.C. operated Relays in this series require but 4 watts on 50/60 cycle current, and the D. C. models from 1.5 to 2 watts, affording maximum effi-

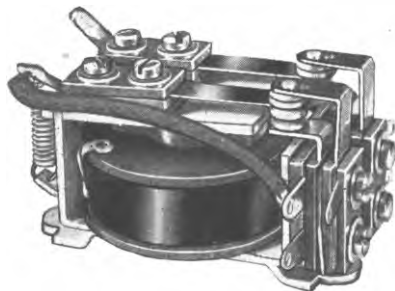


ciency without sacrifice of power and dependability. Metal brackets (not shown in the illustration) are supplied with all Relays of this type, and except on special order, these models are limited to the following contact arrangements and the usual standard operating voltages:

Contact Combinations	Type Numbers		Contact Sizes and List Prices			
	3/16"	1/4"	List	Net	List	Net
Double Pole-Double Throw.....	104AM	104BM	\$4.75	\$2.85	\$5.25	\$3.15
Double Pole-Single Throw (N. O.).....	105AM	105BM	4.50	2.70	5.00	3.00
Double Pole-Single Throw (N. C.).....	106AM	106BM	4.50	2.70	5.00	3.00

The above chart lists type numbers for A.C. operated Relays. D. C. coils may be obtained by changing the series number from 100 to 200. Prices apply to both.

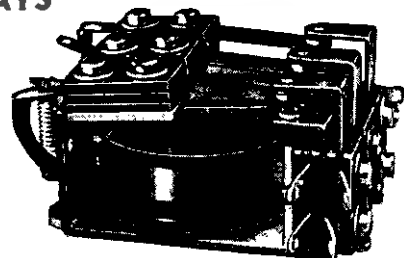
INDUSTRIAL CONTROL RELAYS



Series 960

Designed mainly for industrial applications — air conditioning, lighting, and power transfer systems, the Series 960 Relays embody all of the rugged construction features demanded in units of this

Having the same characteristics as the Series 960 Relays, these Three Pole units, Series 970, may be used for fractional h/p 3-phase motor controls, etc. The area re-



Series 970

quired for mounting, 2½" x 1⅞" for Type 970 Relays, as against 2½" x 1¼" for the Type 960's, is due to the slightly larger frame. The metal brackets are the same in both instances—2-5/16" long, and 2" between centers of the 6/32 mounting holes. Available in the voltages indicated in the preceding series, and in the following contact combinations:

type without sacrificing the desirable qualities of the midget style. Available in the following contact combinations, and to operate on standard A. C. and D. C. voltages.

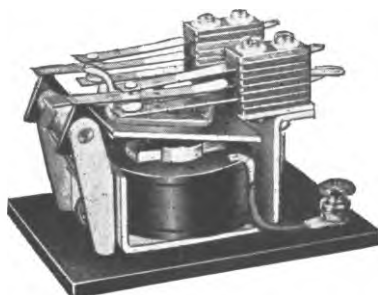
Type	List	Net
Type 964B—Double Pole-Double Throw.....	\$4.90	\$2.94
Type 965B—Double Pole-Single Throw (N. O.).....	4.65	2.79
Type 966B—Double Pole-Single Throw (N. C.).....	4.65	2.79

For smaller contacts, deduct 25c for 3/16" or 50c for ¼" points, from the above list prices.

Type	List	Net
Type 977B—Three Pole-Single Throw (N. O.).....	\$4.90	\$2.94
Type 978B—Three Pole-Single Throw (N. C.).....	4.90	2.94
Type 979B—Three Pole-Double Throw.....	5.65	3.39

For smaller contacts, deduct 50c for 3/16" or 75c for ¼" points from the above list prices.

IMPULSE RELAYS

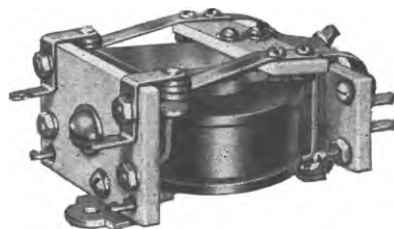


Series 900

This is another type of Relay for use where it is not feasible to have the holding coil in constant service, but differs from the latching types in that it may be controlled with a single push-button. Coils to operate this type of unit are extremely heavy-duty, and are for intermittent (im-

MIDGET TYPE R.F. RELAYS

These models are sturdy, compact Double Pole - Double Throw Transmitter Relays, designed expressly for use in all types of mobile-portable communications equipment



Series 1000—A.C. Series 2000—D.C.

where space is at a premium. The insulation on this, as on the Type 400's, is Isolantite for both the cross-arm and end pieces, with all holes adequately well spaced to prevent structural weakness and possible "creepage." Coils are obtainable for all A. C. and D. C. voltages, and will operate in any position, the former consuming approximately four watts—the latter, two watts of power. Dimensions are 2¾" x 1½" x 1¼" and the list price is \$7.50.....Net Price.....\$4.50

pulse) use only. Available for standard A. C. and D. C. voltages in the following combinations:

	D.P.S.T.		D.P.D.T.	
	List	Net	List	Net
With ⅜" Pure Silver contacts.....	\$8.50	\$5.10	\$9.00	\$5.40
With 3/16" Pure Silver contacts.....	9.00	5.40	9.50	5.70
With ¼" Pure Silver contacts.....	9.50	5.70		

When ordering these types, be sure to specify the input voltage, contact combination, and size of points.

RELAYS BY GUARDIAN

THE MOST COMPLETE LINE OF AMATEUR AND INDUSTRIAL RELAYS

A-100 ANTENNA RELAYS

A-100 Antenna Relays have been designed for the amateur who wants compact, convenient, low cost antenna changeover control.

OPERATING DATA

Contacts

A. Points—Large, fine silver, which give long life even when under heavy overloads.

B. Insulation — Low loss AISiMag 196.

C. Switches—Low capacity due to special form.

D. Control Capacity—Up to 1 KW. either AF or RF circuits, on frequencies up to and including 28 MC. Tested for these ratings under actual operating conditions.

Terminals

A. Solder lug type, tinned for easy soldering.

Coil

A. Standard coils operate on 110 volts 50-60 cycles A. C. Coils for other voltages and currents on specification at 10% addition to list price.

B. Power consumption at above voltage approximately 7 VA.

Mounting

A. Two holes, single screw. Screw furnished.

B. May be mounted on any type panel. All terminals are insulated from ground.

Applications

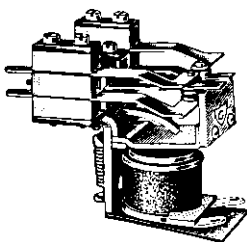
A. Radio:—

A-100—Antenna changeover, break-in, heavy duty keying in the primary with contacts in parallel, grid controlled rectifier keying, and many other double pole double throw uses.

A-100-C—For single wire fed antenna installations. Two A-100-C Relays in place of an A-100 in open wire line systems avoid possible mismatch caused by distorting the feed system to provide for relay installation.

B. Industrial:—

HF and UHF equipment, remote motor control, heating equipment, etc.

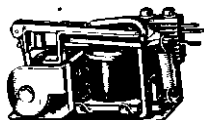


	Length	Width	Height	Shp. Wt.	List Price	Net Price
*A-100	2 3/4"	2"	2 3/8"	7 oz.	\$5.95	\$3.57
*A-100-C	2 3/4"	1"	2 3/8"	6 oz.	3.30	1.98

*Double pole, double throw.

†Single pole, double throw.

RC-100 REMOTE LOCKING CONTROL RELAY



RC-100 Remote Locking Control Relays are a Guardian development of the momentary impulse locking control relay. The circuit to the coil needs be energized only long enough to close armature; contacts lock automatically. Each impulse reverses position of contacts.

OPERATING DATA

Contacts

A. Contacts—1/4" fine silver. Can handle up to 1500 watts at 110 volt, 60 cycle, non-inductive AC. Can also be used in AC primary circuit of any inductive power supply delivering up to and including 1 KW.

B. Insulation—High test Bakelite.

C. Furnished in two standard combinations:

1. Four pole single throw. (RC-100-AR)
2. Three pole. One pole double throw, two poles single throw. (RC-100-BR).

For combinations other than above, add 10% to list prices.

Terminals

A. Solder lug type, tinned for easy soldering.

Coil

A. Standard coils operate on 110 volt, 50 to 60 cycle AC. Coils for other voltages and currents on specification at 10% addition to list prices.

B. Power consumption—Standard coil requires approximately 23 VA, is for intermittent duty only. Coil is energized only long enough to allow relay to step to the next switch position. Power is consumed for the duration of the energizing impulses only, and remains off until the next switching operation is required.

Mounting

Mounts on metal base with all terminals insulated.

Applications

Break in control; phone to CW switching. Any circuit control where locking circuits are used.

	Shp. Wt.	List Price	Net Price
RC-100-AR	8	\$5.00 ea.	\$3.00 ea.
RC-100-BR	8	5.50 ea.	3.30 ea.

T-100 TIME DELAY RELAYS

A laminated* relay in assembly with a resistance wound thermostatic unit. The laminated construction of the field piece and armature give an efficient, powerful, trouble free time delay relay. Unit is mounted in a tightly closed metal box for protection against dust and dirt.

OPERATING DATA

Contacts A. Oversize silver contacts give long life, can take severe overloads without damage.

B. Contact capacity—1500 watts on 110 volt 60 cycle, non-inductive AC. Can also be used in the AC primary of any inductive power supply delivering up to, and including, 1 KW.

C. Insulation—high test bakelite—tested at 1500 volts for breakdown to ground.

D. Maximum switch capacity—single pole, single throw.

E. Time delay—adjustable for any period between 10 and 60 seconds.

F. After contacts close, thermostat blade is cut out of circuit.

Coil A. Standard unit designed for operation on 110 volt 60 cycle non-inductive AC. For coils operating on other than standard voltage, add 10% to list price.

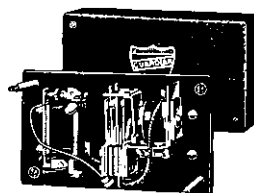
B. Power consumption of coil and time delay during closing of thermostatic blade is approximately 10 VA, after closing, 5.5 VA.

Applications

A. Radio—In transmitter circuits to prevent damage of rectifiers and tube filaments by application of plate current before filaments are sufficiently heated.

B. Industrial—Any control problem requiring the changing of circuits after a predetermined interval.

T-100—5 1/4" long, 3" wide, 2 1/4" high. Shipping weight 1 1/4 lbs.
List Price \$12.00 each Net Price \$7.20 each



T-110 TIME DELAY RELAYS

The T-110 is a compact, sturdy, economical time delay relay for use in applications not requiring the capacities of the T-100. Contact capacity—1250 watts on 110 volt, 60 cycle, non-inductive AC. Can also be used in the AC primary circuit of any inductive power supply delivering up to, and including, 1 KW.

T-110—5 1/8" long, 3 1/8" wide, 2 1/8" high. Shp. Wgt. 8 oz.
List Price \$7.50 each Net Price \$4.50 each

R-100 HIGH FREQUENCY RELAYS

R-100 Relays are small, efficient, economical, rugged controls designed to give maximum contact capacity in minimum space at low cost.

OPERATING DATA

Contacts

A. Points—Large fine silver which give long life even when severely overloaded.

B. Insulation — Low loss AISiMag 196.

C. Switches—Special form of leaves gives low capacity.

D. Contact Capacity—Up to 1 KW at any frequency up to and including 28 MC, on AF and RF circuits.

Terminals A. Solder lug type, tinned for easy soldering.

Coil A. Standard coils operate on 110 volt 60 cycles A.C., draw approximately 7 VA.

B. For coils operating on other voltages or specifications, add 10% to list price.

Mounting A. Two holes, single screw. Screw furnished.

B. May be mounted on any type of panel, as all terminals are insulated from ground.

Applications

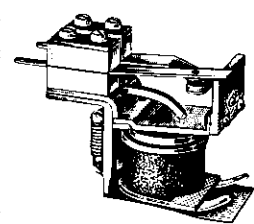
A. Radio—Band switching, high voltage keying, grid controlled rectifier keying, crystal switching, remote control of receiver and transmitter, etc.

B. Industrial—Oven control, remote motor control, short wave therapy and diathermy, and innumerable RF and UHF uses.

	Shp. Wt.	List Price	Net Price		
R-100—S.P.S.T., normally open	1"	2"	6	\$2.75	\$1.65
R-100-B—S.P.S.T., normally closed	1"	2 3/8"	6	2.75	1.65
R-100-C—S.P.D.T.	1"	2 3/8"	6	3.30	1.98
*R-100-G—D.P.D.T.	2"	2 1/4"	5 1/2	5.00	3.00

Length for above items: 2 3/4".

*The R-100-G is TripleX insulated, is rated at 400 watts at 14 megacycles. For applications requiring higher ratings use the A-100.



CIRCUIT DIAGRAMS FURNISHED ON REQUEST

RELAYS BY GUARDIAN

THE MOST COMPLETE LINE OF AMATEUR AND INDUSTRIAL RELAYS

U-100 AND U-200 ADJUSTABLE UNDERLOAD RELAYS

Sensitive, precise, finely constructed instruments designed for long, trouble free service. Relays are encased in attractive black metal container protecting them against dust, dirt, and accidental misadjustment.

OPERATING DATA

Contacts

- A. Points—Oversize, fine silver for long life, can take severe overloads.
- B. Insulation—Bakelite.
- C. Switches—Single pole, single throw, normally open.
- D. Control Capacity—A. C. primary of any power supply delivering up to and including 500 watts. Tested for this rating under actual operating conditions.

Coil

- A. Standard coil operates over an adjustable range of 100 to 200 mils D. C. on the U-100 model; 200 to 400 mils on the U-200 model. Release current value is 75% of the attract current value. Desired attract current is obtained by screw adjustment of the spring tension.
- B. Normal current through coil of U-100 is 300 mils; of the U-200, 600 mils.
- C. At above ratings, the voltage drop through the U-100 coil is 10.5 volts; through U-200 coil, 9 volts.
- D. To prevent possible "talking back" of relay during modulation, it is recommended that a 200 volt condenser of sufficient capacity, usually a 10 mfd., be connected across the relay coil.

Mounting

- A. Preferred mounting position has armature hinge on bottom with armature vertical.
- B. Two insulated mounting studs and protective fibre disc permit mounting on any type of panel.
- C. Two holes, two screws. Screws furnished.
- D. Dust proof metal cover, thumb screw fasteners.

Terminals

Heavy solder lugs, tinned for easy soldering.

Applications

- A. Radio—Protection of class "B" audio equipment in case of class "C" load failure.
 - B. Industrial—Any D. C. circuit where it is desirable to maintain currents above a set value.
- U-100 and U-200 are 3 1/4" in diameter, 2 1/4" high. Shipping weight 14 oz. List Price \$8.50 ea. Net Price \$5.10 ea.



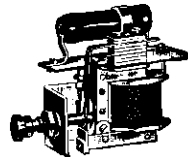
X-100 ADJUSTABLE OVERLOAD RELAYS

Positive precise protection against current surges and continuous overloads. X-100 replaces expensive, unsatisfactory, time wasting fuses, provides flexible control of the current flow.

OPERATING DATA

Contacts

- A. Points—Large, fine silver, for long life. Can take severe overloads without damage, rated for 1500 watts on 110 volt, 60 cycle, non-inductive A. C. and in A. C. primary circuit of any inductive power supply delivering up to and including 1 KW.



- B. Insulation—High test bakelite.

- C. Switches—Single pole, single throw with special constant tension form. Contacts lock open, cannot be reset, or points held in contact, until overload stops.

Terminals

- A. Solder lug type, tinned for easy soldering.

Coil

- A. Adjustable to operate on any current flow from 150 to 650 mils.
- B. Voltage drop across coil is 6.5 volts at 650 mils, 9 volts at 150 mils.
- C. Insulation between coil and ground rated at 200 volts.

Mounting

- A. Single hole. Mounts on rear of panel with reset button extending through panel. Bushing, and lock nut, supplied with relay, hold unit firmly in place. Bushing requires a 1/8" hole.
- B. May be mounted on any type of panel. All terminals are insulated from ground.

Applications

Overload protection in circuits with varying current demands. Adjustability makes this an ideal relay for experimental work with new circuits.

- X-100 4" long, 2 1/2" wide, 3 1/2" high. Shipping weight 12 oz. List Price \$10.00 ea. Net Price \$6.00 ea.
- Available in non-adjustable type to operate on 150-250-500-750 mills. List Price \$7.50 ea. Net Price \$4.50 ea.

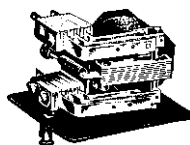
B-100 BREAK IN RELAYS

Specially designed for break-in operation on amateur transmitters. Low current draw and compact assembly, plus use of laminated field piece and armature, make the B-100 an ideal relay for this purpose.

OPERATING DATA

Contacts

- A. Points—1/4" fine silver, capacity to 1500 watts. 60 cycle non-inductive A. C. and in A. C. primary circuit of any inductive power supply delivering up to and including 1 KW.
- B. Insulation—High test bakelite.
- C. Switches—Double pole, double throw, ample capacity.



- D. Control Capacity—Break-in circuit on any transmitter up to 1 KW.

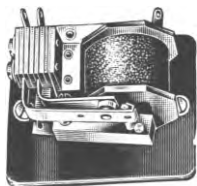
Coil

- A. Standard coils operate on 50-60 cycle A. C. 110 volts. Coils for other voltages and currents, on specifications at 10% addition to list price.
- B. Power Consumption—Standard coil requires approximately 8 1/2 VA.

Applications

- A. Break-in circuits in amateur transmitters.
- B-100—2 3/4" long, 2 1/8" high, 2 1/4" wide. Shipping weight 11 oz. List Price \$7.50 ea. Net Price \$4.50 ea.

K-100 KEYING RELAYS



Low voltage relays controlling high voltage transmission. Relay will follow key or bug at highest WPM rate attainable. High speed of response, plus strong magnet and return spring, gives a clean make and break, producing the best CW note.

OPERATING DATA

Contacts

- A. Points—Oversize silver. Handle 1500 watts on 60 cycle non-inductive 110 volt A. C. and in A. C. primary circuit of any inductive power supply delivering up to and including 1 KW.

- B. Insulation—High test bakelite. Unit will withstand 5000 volts to ground.
- C. Switches—Compact, single pole, single throw. Design of

leaves give exceptionally fast response.

- D. Control Capacity—Up to 2000 volts with clean make and break.

Coil

- A. Standard coils operate on 1 1/2 to 4 volts D. C., 5 to 16 volts A. C. Power consumption on A. C., approximately 1 1/2 V. A., D. C. approximately 1 watt. Coils for other voltages on specification at 10% addition to list price.

Applications

Control of battery receivers, transmitters using filament center tap keying of any stage having up to 2000 volts on plate, primary keying or control of power supplies up to and including 500 watts and grid-controlled rectifier keying of 3000 volt power supplies.

- K-100—2 3/4" long, 2 1/4" wide, 1 7/8" high. Shipping weight 10 oz. List Price \$5.50 ea. Net Price \$3.30 ea.

CIRCUIT DIAGRAMS FURNISHED ON REQUEST

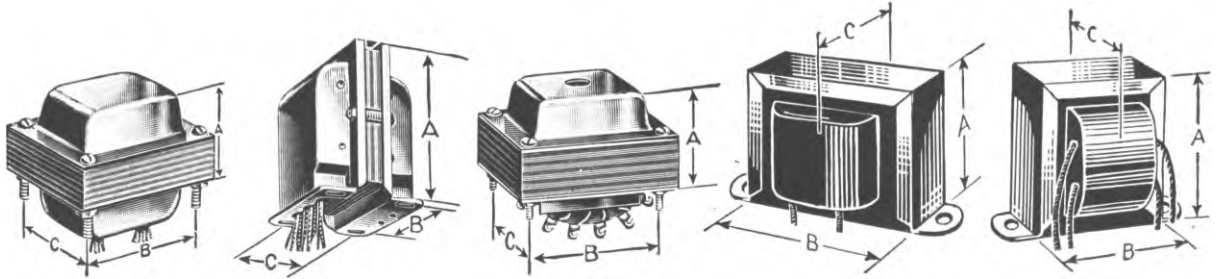
Utah

TRANSFORMERS

A complete line of replacement transformers designed to service the requirements of practically any radio set on the market. Utah Transformers are standard equipment in millions of receivers throughout the world—definite proof of their reliability and performance under all operating conditions—your assurance of permanently satisfied customers. Fully impreg-

nated and climate-proof.

First letter in Part No. designates mounting style; next number principal filament voltage; next two numbers, total millis output. A letter at end designates additional filaments — E is 3 filaments, G is 5 filaments. No letter means 2 filaments.



2 1/2 VOLT TUBE POWER TRANSFORMERS — 2 FILAMENTS

Style	Stock Number	A.C. Plate Volts	Filament No. 1	Filament No. 2	Dimensions (In.) A B C	Mounting Centers (In.)	Shipping Weight	List Price	Net Price
X	X 240	650 Volts C.T. 40 Mills.	5 Volts 2 Amps.	2.5 V.C.T. 4 Amps.	1 1/2 x 3 x 2 1/2	2 1/2 x 2	2 Lbs.	\$2.40	\$1.44
Y	Y 240	650 Volts C.T. 40 Mills.	5 Volts 2 Amps.	2.5 V.C.T. 4 Amps.	3 1/8 x 2 1/2 x 2 3/8	2 x 1 1/2	2 Lbs.	2.65	1.59
Z	Z 240	650 Volts C.T. 40 Mills.	5 Volts 2 Amps.	2.5 V.C.T. 4 Amps.	1 1/2 x 3 x 2 1/2	2 1/2 x 2	2 Lbs.	2.25	1.35
X	X 245	650 Volts C.T. 40 Mills.	5 Volts 2 Amps.	2.5 V.C.T. 7 Amps.	1 3/4 x 3 x 3 1/2	2 1/2 x 2	2 1/2 Lbs.	3.30	1.98
Y	Y 245	650 Volts C.T. 40 Mills.	5 Volts 2 Amps.	2.5 V.C.T. 7 Amps.	3 1/8 x 2 1/2 x 2 3/8	2 x 1 3/4	2 3/4 Lbs.	3.40	2.04
Z	Z 245	650 Volts C.T. 40 Mills.	5 Volts 2 Amps.	2.5 V.C.T. 7 Amps.	1 3/4 x 3 x 2 1/2	2 1/2 x 2	2 1/4 Lbs.	3.15	1.89
X	X 250	700 Volts C.T. 50 Mills.	5 Volts 2 Amps.	2.5 V.C.T. 5 Amps.	1 3/4 x 3 x 2 1/2	2 1/2 x 2	2 1/2 Lbs.	2.80	1.68
Y	Y 250	700 Volts C.T. 50 Mills.	5 Volts 2 Amps.	2.5 V.C.T. 5 Amps.	3 1/8 x 2 1/2 x 2 3/8	2 x 1 3/4	2 3/4 Lbs.	3.10	1.86
Z	Z 250	700 Volts C.T. 50 Mills.	5 Volts 2 Amps.	2.5 V.C.T. 5 Amps.	1 3/4 x 3 x 2 1/2	2 1/2 x 2	2 1/4 Lbs.	2.65	1.59

2 1/2 VOLT TUBE POWER TRANSFORMERS — 3 FILAMENTS

Style	Stock Number	A.C. Plate Volts	Filament No. 1	Filament No. 2	Filament No. 3	Dimensions (In.) A B C	Mounting Centers (In.)	Shipping Weight	List Price	Net Price
X	X 250E	650 Volt C.T. 50 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 1 3/4 Amps.	2.5 V.C.T. 5 3/4 Amps.	2 x 3 x 2 1/2	2 1/2 x 2	3 Lbs.	\$3.30	\$1.98
Y	Y 250E	650 Volt C.T. 50 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 1 3/4 Amps.	2.5 V.C.T. 5 3/4 Amps.	3 1/8 x 2 1/2 x 2 3/8	2 x 2	3 1/4 Lbs.	3.55	2.13
Z	Z 250E	650 Volt C.T. 50 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 1 3/4 Amps.	2.5 V.C.T. 5 3/4 Amps.	2 x 3 x 2 1/2	2 1/2 x 2	2 3/4 Lbs.	3.15	1.89
X	X 260E	700 Volt C.T. 60 Mills.	5 Volts 2 Amps.	2.5 V.C.T. 1 3/4 Amps.	2.5 V.C.T. 7 Amps.	2 x 3 x 2 1/2	2 1/2 x 2	3 Lbs.	3.65	2.19
Y	Y 260E	700 Volt C.T. 60 Mills.	5 Volts 2 Amps.	2.5 V.C.T. 1 3/4 Amps.	2.5 V.C.T. 7 Amps.	3 1/8 x 2 1/2 x 2 3/8	2 x 2	3 1/4 Lbs.	3.90	2.34
X	X 270E	700 Volt C.T. 70 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 3 Amps.	2.5 V.C.T. 7 Amps.	3 x 3 3/8 x 2 5/8	2 5/8 x 2 1/4	3 3/4 Lbs.	3.75	2.25
Y	Y 270E	700 Volt C.T. 70 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 3 Amps.	2.5 V.C.T. 7 Amps.	3 1/2 x 2 3/8 x 3 1/8	2 1/4 x 2	4 Lbs.	4.15	2.49
Z	Z 270E	700 Volt C.T. 70 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 3 Amps.	2.5 V.C.T. 7 Amps.	2 x 3 3/8 x 2 5/8	2 5/8 x 2 1/4	3 1/2 Lbs.	3.60	2.16
X	X 290E	700 Volt C.T. 90 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 3 Amps.	2.5 V.C.T. 10 1/2 Amps.	1 7/8 x 3 3/4 x 3 1/8	3 1/8 x 2 1/2	4 Lbs.	4.15	2.49
Y	Y 290E	700 Volt C.T. 90 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 3 Amps.	2.5 V.C.T. 10 1/2 Amps.	3 7/8 x 3 1/4 x 3 1/8	2 1/2 x 1 5/8	4 1/4 Lbs.	4.40	2.64
Z	Z 290E	700 Volt C.T. 90 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 3 Amps.	2.5 V.C.T. 10 1/2 Amps.	1 7/8 x 3 3/4 x 3 1/8	3 1/2 x 2 1/2	3 3/4 Lbs.	4.00	2.40
X	X 211E	700 Volt C.T. 110 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 3 Amps.	2.5 V.C.T. 15 1/2 Amps.	2 1/8 x 3 3/4 x 3 1/8	3 1/8 x 2 1/2	4 3/4 Lbs.	5.30	3.18
Y	Y 211E	700 Volt C.T. 110 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 3 Amps.	2.5 V.C.T. 15 1/2 Amps.	3 7/8 x 3 1/4 x 3 3/8	2 1/2 x 2 5/8	5 Lbs.	5.65	3.39
Z	Z 211E	700 Volt C.T. 110 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 3 Amps.	2.5 V.C.T. 15 1/2 Amps.	2 1/8 x 3 3/4 x 3 1/8	3 1/8 x 2 1/2	4 1/2 Lbs.	5.15	3.09
X	X 212E	800 Volt C.T. 125 Mills.	5 Volt C.T. 3 Amps.	2 1/2 Volt C.T. 3 1/2 Amps.	2 1/2 Volt C.T. 15 Amps.	2 3/8 x 4 1/2 x 3 1/8	3 3/4 x 3 5/8	5 3/4 Lbs.	5.90	3.54
Y	Y 212E	800 Volt C.T. 125 Mills.	5 Volt C.T. 3 Amps.	2 1/2 Volt C.T. 3 1/2 Amps.	2 1/2 Volt C.T. 15 Amps.	4 1/4 x 3 1/2 x 3 3/4	2 3/4 x 2 5/8	6 Lbs.	6.15	3.69
Y	Y 216E	850 Volt C.T. 160 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 8 Amps.	2.5 V.C.T. 14 Amps.	4 5/8 x 3 3/4 x 3 3/4	3 x 2 3/4	7 1/4 Lbs.	6.35	3.81
Z	Z 216E	850 Volt C.T. 160 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 8 Amps.	2.5 V.C.T. 14 Amps.	2 5/8 x 4 1/2 x 3 3/4	3 3/4 x 3	6 3/4 Lbs.	5.90	3.54
Y	Y 220E	850 Volt C.T. 200 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 8 Amps.	2.5 V.C.T. 14 Amps.	4 5/8 x 3 3/4 x 4 1/8	3 x 3 1/8	8 3/4 Lbs.	8.15	4.89

6.3 VOLT TUBE POWER TRANSFORMERS — 2 FILAMENTS

Style	Stock Number	A.C. Plate Volts	Filament No. 1	Filament No. 2	Dimensions (In.) A B C	Mounting Centers (In.)	Shipping Weight	List Price	Net Price
X	X 640	650 Volts C.T. 40 Mills.	5 Volts 2 Amps.	6.3 V.C.T. 1.6 Amps.	1½x3x2½	2½x2	2 Lbs.	\$2.40	\$1.44
Y	Y 640	650 Volts C.T. 40 Mills.	5 Volts 2 Amps.	6.3 V.C.T. 1.6 Amps.	3¼x2½x2¾	2x1½	2¼ Lbs.	2.65	1.59
Z	Z 640	650 Volts C.T. 40 Mills.	5 Volts 2 Amps.	6.3 V.C.T. 1.6 Amps.	1½x3x2½	2½x2	2 Lbs.	2.20	1.32
X	X 650	700 Volts C.T. 50 Mills.	5 Volts 2 Amps.	6.3 V.C.T. 2 Amps.	1¾x3x2½	2½x2	2½ Lbs.	3.10	1.86
Y	Y 650	700 Volts C.T. 50 Mills.	5 Volts 2 Amps.	6.3 V.C.T. 2 Amps.	3¼x2½x2¾	2x1¾	2¾ Lbs.	3.35	2.01
Z	Z 650	700 Volts C.T. 50 Mills.	5 Volts 2 Amps.	6.3 V.C.T. 2 Amps.	1¾x3x2½	2½x2	2½ Lbs.	3.05	1.83
X	X 660	700 Volts C.T. 60 Mills.	5 Volts 2 Amps.	6.3 V.C.T. 2.5 Amps.	2x3x2½	2½x2	3 Lbs.	3.40	2.04
Y	Y 660	700 Volts C.T. 60 Mills.	5 Volts 2 Amps.	6.3 V.C.T. 2.5 Amps.	3¼x2½x2¾	2x2	3¼ Lbs.	3.85	2.31
Z	Z 660	700 Volts C.T. 60 Mills.	5 Volts 2 Amps.	6.3 V.C.T. 2.5 Amps.	2x3x2½	2½x2	2¾ Lbs.	3.25	1.95
X	X 675	700 Volts C.T. 75 Mills.	5 Volts 3 Amps.	6.3 V.C.T. 3.2 Amps.	2x3¾x2¾	2½x2¼	3½ Lbs.	3.70	2.22
Y	Y 675	700 Volts C.T. 75 Mills.	5 Volts 3 Amps.	6.3 V.C.T. 3.2 Amps.	3½x2¾x3½	2¼x2	3¾ Lbs.	4.05	2.43
Z	Z 675	700 Volts C.T. 75 Mills.	5 Volts 3 Amps.	6.3 V.C.T. 3.2 Amps.	2x3¾x2¾	2½x2¼	3½ Lbs.	3.55	2.13
X	X 690	700 Volts C.T. 90 Mills.	5 V.C.T. 3 Amps.	6.3 V.C.T. 3.5 Amps.	2½x3¾x3½	3½x2½	4¾ Lbs.	4.15	2.49
Y	Y 690	700 Volts C.T. 90 Mills.	5 V.C.T. 3 Amps.	6.3 V.C.T. 3.5 Amps.	3¾x3¾x3¾	2½x2¾	5 Lbs.	4.50	2.70
Z	Z 690	700 Volts C.T. 90 Mills.	5 V.C.T. 3 Amps.	6.3 V.C.T. 3.5 Amps.	2½x3¾x3¾	3½x2½	4½ Lbs.	4.00	2.40
X	X 612	750 Volts C.T. 125 Mills.	5 Volts 3 Amps.	6.3 V.C.T. 5 Amps.	2½x3¾x3½	3½x2½	5 Lbs.	4.30	2.58
Y	Y 612	750 Volts C.T. 125 Mills.	5 Volts 3 Amps.	6.3 V.C.T. 5 Amps.	3¾x3¾x3¾	2½x2¾	5½ Lbs.	4.75	2.85
Z	Z 612	750 Volts C.T. 125 Mills.	5 Volts 3 Amps.	6.3 V.C.T. 5 Amps.	2½x3¾x3½	3½x2½	4¾ Lbs.	4.15	2.49
Y	Y 616	800 Volts C.T. 180 Mills.	5 Volts 3 Amps.	6.3 V.C.T. 6 Amps.	4¼x3½x3¾	2¾x2¾	6 Lbs.	5.75	3.45

6.3 VOLT FILAMENT POWER TRANSFORMERS — 3 FILAMENTS

Style	Stock Number	A.C. Plate Volts	Filament No. 1	Filament No. 2	Filament No. 3	Dimensions (In.) A B C	Mounting Centers (In.)	Shipping Weight	List Price	Net Price
X	X 620E	800 Volts C.T. 200 Mills.	5 Volts 3 Amps.	6.3 V.C.T. 3 Amps.	6.3 V.C.T. 6 Amps.	2¼x4½x3¾	3¾x3	6½ Lbs.	\$6.65	\$3.99
Y	Y 620E	800 Volts C.T. 200 Mills.	5 Volts 3 Amps.	6.3 V.C.T. 3 Amps.	6.3 V.C.T. 6 Amps.	4½x3¾x3¾	3x2½	6¾ Lbs.	7.00	4.20
Z	Z 620E	800 Volts C.T. 200 Mills.	5 Volts 3 Amps.	6.3 V.C.T. 3 Amps.	6.3 V.C.T. 6 Amps.	2¼x4½x3¾	3¾x3	6 Lbs.	6.50	3.90

COMBINATION 6.3 and 2.5 VOLT FILAMENT POWER TRANSFORMERS

Style	Stock Number	A.C. Plate Volts	Filament No. 1	Filament No. 2	Filament No. 3	Filament No. 4	Dimensions (In.) A B C	Mounting Centers (In.)	Shipping Weight	List Price	Net Price
X	X 62-70E	700 Volts C.T. 70 Mills.	5 Volts 2 Amps.	2.5 V.C.T. 4 Amps.	6.3 V.C.T. 3 Amps.	—	2x3¾x2¾	2¾x2¼	3½ Lbs.	\$3.50	\$2.10
Y	Y 62-70E	700 Volts C.T. 70 Mills.	5 Volts 2 Amps.	2.5 V.C.T. 4 Amps.	6.3 V.C.T. 3 Amps.	—	3½x2¾x3¾	2¼x2	3¾ Lbs.	3.75	2.25
Z	Z 62-70E	700 Volts C.T. 70 Mills.	5 Volts 2 Amps.	2.5 V.C.T. 4 Amps.	6.3 V.C.T. 3 Amps.	—	2x3¾x2¾	2¾x2¼	3½ Lbs.	3.35	2.01
Y	Y 62-25F	870 Volts C.T. 250 Mills. Bias Tap 80 V	5 Volts 3 Amps.	2.5 V. 3 Amps.	2.5 V.C.T. 10.5 Amps.	6.3 V.C.T. 1.5 Amps.	2x3¾x2¾	2¾x2¼	3½ Lbs.	3.35	2.01
							4½x3¾x3¾	3x2¾	6¾ Lbs.	10.00	6.00

6.3 VOLT POWER TRANSFORMERS WITH MOTOR TUNING WINDING

Style	Stock Number	A.C. Plate Volts	Filament No. 1	Filament No. 2	Motor Winding	Dimensions (In.) A B C	Mounting Centers (In.)	Shipping Weight	List Price	Net Price
X	X 2511	700 Volts C.T. 120 Mills.	5 Volts C.T. 5 Amps.	6.3 Volts C.T. 5 Amps.	50 Volts Tapped 18 V. and 24 V.—35 Watts	2½x4½x3¾	3x3¾	7 Lbs.	\$5.50	\$3.30
Y	Y 2515	700 Volts C.T. 120 Mills.	5 Volts C.T. 5 Amps.	6.3 Volts C.T. 5 Amps.	50 Volts Tapped 7 V. and 24 V.—35 Watts	4½x3¾x3¾	3x2¾	7¼ Lbs.	5.75	3.45
X	X 2510	750 Volts C.T. 150 Mills.	5 Volts C.T. 5 Amps.	6.3 Volts C.T. 5.2 Amps.	50 Volts Tapped 18 V. and 24 V.—35 Watts	2½x4½x3¾	3x3¾	7 Lbs.	6.25	3.75
Y	Y 2514	750 Volts C.T. 150 Mills.	5 Volts C.T. 5 Amps.	6.3 Volts C.T. 5.2 Amps.	50 Volts Tapped 18 V. and 24 V.—35 Watts	4½x3¾x3¾	3x2¾	7¼ Lbs.	6.50	3.90
X	X 2509	800 Volts C.T. 200 Mills.	5 Volts C.T. 3 Amps.	6.3 Volts C.T. 5.3 Amps.	50 Volts Tapped 18 V. and 24 V.—35 Watts	2½x4½x3¾	3x3¾	7¾ Lbs.	8.00	4.80
Y	Y 2516	800 Volts C.T. 200 Mills.	5 Volts C.T. 3 Amps.	6.3 Volts C.T. 5.3 Amps.	50 Volts Tapped 18 V. and 24 V.—35 Watts	4½x3¾x3¾	3x2¾	8 Lbs.	8.25	4.95



TRANSFORMERS

FILTER CHOKES

Style	Stock Number	Mills.	Henries	D.C. Res.	Core Size (In.)	Dimensions (In.)			Mounting Centers (In.)	Shipping Weight	List Price	Net Price
						A	B	C				
D	4831	40	5	150	1/2 x 1/2	1 3/8 x 1 1/2 x 1 3/8	2	7 Oz.	\$.75	\$.45		
D	4660	30-40	7	200	1/2 x 3/8	1 3/8 x 1 1/2 x 1 3/8	2	7 Oz.	.75	.45		
D	4818	30-40	8	300	1/2 x 3/8	1 3/8 x 1 1/2 x 1 3/8	2	7 Oz.	.75	.45		
D	4661	30-40	10	400	1/2 x 3/8	1 3/8 x 1 1/2 x 1 3/8	2	7 Oz.	.75	.45		
D	4815	30-40	12	500	1/2 x 3/8	1 3/8 x 1 1/2 x 1 3/8	2	7 Oz.	.75	.45		
D	4662	30-40	10	200	5/8 x 5/8	1 5/8 x 1 5/8 x 1 5/8	2 3/8	10 Oz.	.90	.54		
D	4663	30-40	15	400	5/8 x 5/8	1 5/8 x 1 5/8 x 1 5/8	2 3/8	10 Oz.	.90	.54		
D	4664	30-40	18	500	5/8 x 5/8	1 5/8 x 1 5/8 x 1 5/8	2 3/8	10 Oz.	.90	.54		
D	4665	75	15	200	3/4 x 3/4	1 7/8 x 2 1/8 x 1 5/8	2 5/8	1 Lb.	1.40	.84		
D	4001	50	23	400	3/4 x 3/4	1 7/8 x 2 1/8 x 1 5/8	2 5/8	1 Lb.	1.40	.84		
D	4027	50	30	550	3/4 x 3/4	1 7/8 x 2 1/8 x 1 5/8	2 5/8	1 Lb.	1.40	.84		
D	4816	40	40	800	3/4 x 3/4	1 7/8 x 2 1/8 x 1 5/8	2 5/8	1 Lb.	1.40	.84		
D	4666	100	15	160	7/8 x 7/8	2 1/4 x 2 1/8 x 1 3/8	3 1/8	1 3/4 Lbs.	1.65	.99		
D*	4002	75	30	340	7/8 x 7/8	2 1/4 x 2 1/8 x 1 3/8	3 1/8	1 3/4 Lbs.	1.65	.99		
D	4667	175	10	100	1x1	2 1/2 x 3 1/8 x 2 1/8	3 3/8	2 1/2 Lbs.	2.10	1.26		
D*	4003	110	30	235	1x1	2 1/2 x 3 1/8 x 2 1/8	3 3/8	2 1/2 Lbs.	2.10	1.26		
E †	4668	200	10	120	1 1/4 x 1 1/8	3 3/8 x 2 1/8 x 2 1/8	2 1/2 x 2 1/8	3 1/2 Lbs.	3.25	1.95		
E †	4008	250	12	125	1 1/4 x 1 1/4	3 3/4 x 3 1/4 x 2 3/4	2 1/2 x 2 1/4	4 1/2 Lbs.	4.00	2.40		
E †	4669	300	10	80	1 1/2 x 1 1/2	4 1/2 x 3 3/4 x 3 1/2	3 x 2 1/2	7 1/2 Lbs.	5.25	3.15		

* Lug Terminals. † Vertical Angle Bracket Mounting and Lug Terminals.

AUDIO REACTORS

Style	Stock No.	Mills.	Henries	D. C. Resistance	Core Size (Inches)	Dimensions (In.)			Mounting Centers (In.)	Shipping Weight	List Price	Net Price
						A	B	C				
D*	4831	10	150	3,500	3/4 x 3/4	1 7/8 x 2 1/8 x 1 3/8	2 5/8	1 Lb.	\$2.00	\$1.20		
D	4824	10	300	6,000	3/4 x 3/4	1 7/8 x 2 1/8 x 1 3/8	2 5/8	1 Lb.	1.85	1.11		
Y	4825	10	1000	10,000	1x1	3 3/8 x 2 1/2 x 2 5/8	2x1 3/4	2 1/4 Lbs.	4.50	2.70		

*Center Tapped

INPUT AUDIO TRANSFORMERS — SINGLE PLATE TO PUSH PULL GRIDS

Style	Stock Number	Ratio	Core Size (In.)	Dimensions (In.)			Mounting Centers (In.)	Shipping Weight	List Price	Net Price
				A	B	C				
D	8301	3 - 1	1/2 x 3/8	1 3/8 x 1 1/2 x 1 1/4	2	7 Oz.	\$1.25	\$0.75		
D	8305	3 - 1	5/8 x 5/8	1 5/8 x 1 1/2 x 1 3/8	2 3/8	10 Oz.	1.45	.87		
D	8311	3 - 1	3/4 x 3/4	1 7/8 x 2 1/8 x 1 5/8	2 5/8	1 Lb.	1.85	1.11		
D	8319	3 - 1	1x1	2 3/8 x 3 1/8 x 2 1/8	3 3/8	2 1/4 Lbs.	2.50	1.50		

INPUT AUDIO TRANSFORMERS — SINGLE PLATE TO SINGLE GRID

Style	Stock Number	Ratio	Core Size (In.)	Dimensions (In.)			Mounting Centers (In.)	Shipping Weight	List Price	Net Price
				A	B	C				
D	8300	3 - 1	1/2 x 3/8	1 3/8 x 1 1/2 x 1 1/4	2	7 Oz.	\$1.10	\$0.66		
D	8304	3 - 1	5/8 x 5/8	1 5/8 x 1 1/2 x 1 3/8	2 3/8	10 Oz.	1.15	.69		
D	8310	3 - 1	3/4 x 3/4	1 7/8 x 2 1/8 x 1 5/8	2 5/8	1 Lb.	1.75	1.05		
D	8316	4 - 1	7/8 x 7/8	2 1/4 x 2 1/8 x 1 3/8	3 1/8	1 1/2 Lbs.	2.25	1.35		

FILAMENT TRANSFORMERS

Style	Stock Number	Filament	Dimensions (In.)			Mounting Centers (In.)	Shipping Weight	List Price	Net Price
			A	B	C				
D	2467	2.5 Volts C.T. 5 Amps.	2 1/4 x 2 1/8 x 1 7/8	3 1/8	1 1/2 Lbs.	\$1.25	\$0.75		
D*	2468	5 Volts C.T. 4 Amps.	2 5/8 x 3 x 1 3/8	2 3/8 x 1 1/2	2 Lbs.	1.65	.99		
D*	2466	6.3 Volts C.T. 5 Amps.	2 5/8 x 3 x 2	2 3/8 x 1 1/2	2 1/2 Lbs.	1.75	1.05		
D	2471	6.3 Volts Tapped 2.5 V. and 5 V. All at 2.5 Amps.	2 1/4 x 2 1/2 x 1 7/8	3 1/8	1 1/2 Lbs.	1.95	1.17		

*Similar to Style D—Horizontal Mounting Angle Frame

6 VOLT VIBRATOR TRANSFORMERS

Style	Stock Number	D.C. Volts To Filter	M.A.	Dimensions (In.)			Mounting Centers (In.)	Shipping Weight	List Price	Net Price
				A	B	C				
D*	2482	150	35	2 1/4 x 2 1/8 x 1 1/2	3 1/4	1 3/4 Lbs.	\$2.15	\$1.29		
D*	2459	225	40	2 1/4 x 2 1/8 x 1 1/2	3 1/4	1 3/4 Lbs.	2.25	1.35		
Y	2460	250	50	3 1/8 x 2 1/2 x 2 5/8	2x1 3/4	2 3/4 Lbs.	2.75	1.65		
Y	2461	275	75	3 1/8 x 2 1/2 x 2 5/8	2x1 3/4	2 3/4 Lbs.	3.25	1.95		

*Same as style D except fully encased

SPECIAL AUDIO AND DRIVER INPUT TRANSFORMERS — SINGLE AND PUSH PULL

Style	Stock Number	Description		Core Size In.	Dimensions (In.)			Mounting Centers (In.)	Shipping Weight	List Price	Net Price
		Driver Tube	Output Tube		A	B	C				
D	8748	1-30	1-19, 1-1J6G, 2-30	1/2 x 3/8	1 3/4	x1 1/2	x1 1/4	2	7 Oz.	\$1.35	\$0.81
D	8329	1-30	1-19, 1-1J6G, 2-30	3/4 x 3/4	1 3/8	x2 3/8	x1 1/8	2 3/8	1 Lb.	1.70	1.02
D	8323	1-56, 76, 6C5	2-2A3, 2-6A3	3/4 x 3/4	1 7/8	x2 3/8	x1 1/8	2 3/8	1 Lb.	2.50	1.50
D	8328	1-56, 76, 6C5	2-45	7/8 x 7/8	2 1/4	x2 1/2	x1 1/8	3 1/8	1 1/2 Lbs.	3.00	1.80
D	8324	2-56, 76, 6C5	2-2A3, 2-6A3	7/8 x 7/8	2 1/4	x2 1/2	x1 1/8	3 1/8	1 1/2 Lbs.	3.00	1.80
D	8326	1-2A5, 42, 6F6 Triode	2-2A5, 2-42 Fixed Bias	7/8 x 7/8	2 1/4	x2 1/2	x1 1/8	3 1/8	1 1/2 Lbs.	3.00	1.80
D	8327	1-2A5, 42, 6F6 Triode	2-2A5, 2-42 Self Bias	7/8 x 7/8	2 1/4	x2 1/2	x1 1/8	3 1/8	1 1/2 Lbs.	3.00	1.80
D	8325	1-45, 2A5, 42	PAR or PP 2A3	1x1	2 1/2	x3 1/2	x2 1/8	3 3/8	2 1/4 Lbs.	3.50	2.10
D	8321	Single Plate 35 Mills.	Push Pull Class "A"	3/4 x 3/4	1 3/8	x2 3/8	x1 1/8	2 3/8	1 Lb.	2.50	1.50
D	8322	Push Pull Plates 35 Mills.	Push Pull Class "A"	7/8 x 7/8	2 1/4	x2 1/2	x1 1/8	3 1/8	1 1/2 Lbs.	3.00	1.80

UNIVERSAL OUTPUT TRANSFORMERS

Style	Stock Number	Description		Nominal Wattage	Core Size (In.)	Dimensions (In.)			Mounting Centers (In.)	Shipping Weight	List Price	Net Price
		Primary	Secondary			A	B	C				
D	8775	Universal—any tube combination	Any voice coil	4	1/2 x 5/8	1 3/8	x1 1/2	x1 1/4	2	7 Oz.	\$1.25	\$0.75
D	7364	"	Any voice coil	8	5/8 x 3/8	1 3/8	x1 1/2	x1 1/4	2 3/8	3/4 Lb.	1.55	.93
E	5999*	"	Any voice coil	12	3/4 x 3/4	2 3/8	x1 1/2	x1 1/2	2 3/8	1 1/4 Lbs.	1.65	.99
D	7390	"	Any voice coil	18	7/8 x 7/8	2 1/4	x2 1/2	x1 1/8	3 1/8	1 3/4 Lbs.	1.95	1.17
E	8777	Universal—any tube combination or 500 Ohm line	Any voice coil	12	3/4 x 3/4	2 3/8	x1 1/2	x1 1/2	2 3/8	1 1/4 Lbs.	1.90	1.14
D	8776	"	Any voice coil	18	7/8 x 7/8	2 1/4	x2 1/2	x1 1/8	3 1/8	1 3/4 Lbs.	2.25	1.35
E	8332	Heavy Duty Push-Pull	4-6-8-10-16 Ohms	26	1x1	3 1/8	x2 1/2	x2	3 3/8	2 1/4 Lbs.	3.00	1.80
E	8331	Heavy Duty Push-Pull	250-500 Ohms	26	1x1	3 1/8	x2 1/2	x2	3 3/8	2 1/4 Lbs.	3.00	1.80
D	8779	Heavy Duty Push-Pull	500-1000-1500-2000 Ohms	26	1x1	2 1/2	x3 1/4	x2 1/8	3 3/8	2 1/4 Lbs.	3.00	1.80
E	8335	Heavy Duty Push-Pull Class "B"	250-500 Ohms	26	1x1	3 1/8	x2 1/2	x2	3 3/8	2 1/4 Lbs.	3.00	1.80
D	8755	Universal Line 500-1000-1500-2000 Ohms	5 Ohms	4	1/2 x 5/8	1 3/8	x1 1/2	x1 1/4	2	7 Oz.	.85	.51
D	8747	"	6 Ohms	8	5/8 x 3/8	1 3/8	x1 1/2	x1 1/4	2 3/8	3/4 Lb.	.85	.51
D	8746	"	8 Ohms	8	5/8 x 3/8	1 3/8	x1 1/2	x1 1/4	2 3/8	3/4 Lb.	.85	.51
E	8749	"	6-8 Ohms	12	3/4 x 3/4	2 3/8	x1 1/2	x1 1/2	2 3/8	1 1/4 Lbs.	1.50	.90
D	8750	"	8 Ohms	18	7/8 x 7/8	2 1/4	x2 1/2	x1 1/8	3 1/8	1 3/4 Lbs.	1.95	1.17
E	8752	"	8 Ohms	18	7/8 x 7/8	2 3/8	x2 1/2	x1 1/8	2 3/8	1 3/4 Lbs.	1.95	1.17
E	8753	"	8 Ohms	26	1x1	3 1/8	x2 1/2	x2	3 3/8	2 1/4 Lbs.	2.25	1.35
D	8871	Universal Line	Any voice coil	8	5/8 x 3/8	1 3/8	x1 1/2	x1 1/4	2 3/8	3/4 Lbs.	1.75	1.05
E	8513	Universal Line	Any voice coil	12	3/4 x 3/4	2 3/8	x1 1/2	x1 1/2	2 3/8	1 1/4 Lbs.	1.95	1.17
E	8514	Universal Line	Any voice coil	18	7/8 x 7/8	2 3/8	x2 1/4	x1 1/8	2 3/8	1 3/4 Lbs.	2.35	1.41

*Number 5999 Available also for Horizontal Mounting—List Price \$1.65—Net Price \$0.99

MICROPHONE, LINE TO GRID AND PICKUP TRANSFORMERS

Style	Stock Number	Description	Core Size (Inches)	Dimensions (In.)			Mounting Centers (In.)	Shipping Weight	List Price	Net Price
				A	B	C				
D	8865	S. B. Microphone to Single Grid—200 or 70 Ohms at 25 Ma.	1/2 x 1/2	1 3/8	x1 1/2	x1 1/4	2	6 Oz.	\$1.00	\$0.60
D	8864	S. B. Microphone to Single Grid—100 Ohms to 60,000 Ohms	1/2 x 3/8	1 3/8	x1 1/2	x1 1/4	2	7 Oz.	1.20	.72
E	8863	D. B. Microphone to Single Grid—200 Ohms to 57,000 Ohms	5/8 x 3/8	1 7/8	x1 1/2	x1 1/8	2	3/4 Lb.	1.75	1.05
Y	8862	D. B. Microphone to Single Grid—200 Ohms to 100,000 Ohms	3/4 x 3/4	2 3/8	x2	x2	1 3/8 x 1 3/8	1 1/4 Lbs.	2.75	1.65
Y	8861	D. B. Microphone or Low Imped. Pickup to Single Grid—200 & 500 Ohms C.T. to 150,000 Ohms	1x1	3 1/8	x2 1/2	x2 3/8	2x1 3/4	2 3/4 Lbs.	4.00	2.40
Y	8860	Low Imped. Pickup or Dynamic Microphone to Sgle. Grid—4, 8, 15 & 30 Ohms to 200,000 Ohms	3/4 x 1	2 3/8	x2x2 1/4		1 3/8 x 1 3/8	1 1/2 Lbs.	2.75	1.65
Y	8859	D. B. Microphone and 200 Ohm Line to P. P. Grids 200 Ohm C.T. to 100,000 Ohms	3/4 x 3/4	2 3/8	x2x2		1 3/8 x 1 3/8	1 1/4 Lbs.	2.00	1.20



GENERAL PULL-PUSH MOISTURE PROOFED TRANSFORMERS



1939-1940 REPLACEMENT TRANSFORMERS

A Compact . . . Yet Complete Line . . . That Avoids Obsolescence

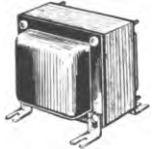
G.T.C. transformers are built with low loss high permeability silicon steel core of sufficient stack to leave a factor of safety over the highest rating for continuous operation under regular use.
 "PUSH-PULL" Impregnation of coils PULLS out all moisture (by means of preheating ovens and high vacuum tanks) and PUSHES in Special 9X Mois-

ture-proofing Wax (under high compression). Sealing is perfect. No dripping of the 9X High Melting-point Wax and subsequent shorting under normal operation in the hottest, most humid climates.
 G.T.C. Transformers employ R.M.A. color coded leads and are individually boxed with complete wiring diagrams.

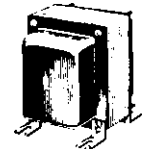
Type "G" Mounting



Flush

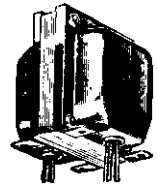


Horizontal



Vertical

Type "F" Mounting



Type "P" Mounting



"MULTI-USE" POWER TRANSFORMERS in TYPE "G" MOUNTING are Universally adaptable PHYSICALLY Supplied with four brackets so that unit may be mounted flush, horizontal, or vertical as shown. Fully shielded and made in accordance with Underwriters' requirements.

The "Multi-Use" Power Transformers are so designed and compactly built that replacements may be selected to fit in any standard chassis. An electro-static shield is incorporated to overcome annoying line hum and interference.

No. of Tubes	Plate		Filament A		Filament B		Filament C		Mounting Centers	Overall Size H x D x W _o	Weight Lbs.	G.T.C. Part No.	List Price
	Volts C.T.	M.A.	Volts	Amps.	Volts	Amps.	Volts	Amps.					

TYPE "G" MOUNTING—2.5 Volts Single and Double Filaments

4-5	650	40	2.5-C.T.	4.75	5.0	2.0			2" x 2 1/2"	2" x 2 1/2" x 3"	2 3/4	7726	2.50
6-7	700	70	2.5-C.T.	7.5	5.0	2.0			2 1/2" x 2 1/2"	2 1/2" x 2 1/2" x 3 1/2"	4 1/2	7729	3.25
8-9	700	90	2.5-C.T.	12.5	5.0	2.0			2 1/2" x 3 1/8"	2 1/2" x 3 1/8" x 3 3/4"	5	7732	4.00
6-7	700	70	2.5-C.T.	3.5	5.0	3.0	2.5	9.0	2 1/2" x 3 1/8"	3 1/8" x 3 3/4" x 3 3/4"	5	1547	4.00
10-13	700	110	2.5-C.T.	3.0	5.0	3.0	2.5	15.25	3" x 3 3/4"	3 1/4" x 3 3/4" x 4 1/2"	6 1/4	1549	5.00

TYPE "G" MOUNTING—6.3 Volts Single Filament

4-5	650	40	6.3-C.T.	2.0	5.0	2.0			2" x 2 1/2"	2" x 2 1/2" x 3"	2 3/4	7741	2.50
6-7	700	70	6.3-C.T.	3.0	5.0	2.0			2 1/2" x 2 1/2"	2 1/2" x 2 1/2" x 3 1/2"	4 1/2	7744	3.00
8-9	700	90	6.3-C.T.	3.75	5.0	2.0			2 1/2" x 3 1/8"	2 1/2" x 3 1/8" x 3 3/4"	5	7747	3.75
10-12	700	110	6.3-C.T.	5.0	5.0	2.0			2 1/2" x 3 1/8"	2" x 3 3/8" x 4 1/4"	5 3/4	7750	4.25

TYPE "F" MOUNTING—2.5 Volts Single and Double Filaments

4-5	650	40	2.5-C.T.	4.75	5.0	2.0			1 1/2" x 2"	3 1/8" x 2 1/2" x 2 3/8"	2 3/4	7727	3.00
6-7	700	70	2.5-C.T.	3.0	5.0	3.0	2.5	7.0	2 1/2" x 2 1/2"	4 1/8" x 3 3/8" x 3 3/8"	5 1/2	1772	4.25
8-9	700	90	2.5-C.T.	3.0	5.0	3.0	2.5	10.5	2 1/2" x 2 1/2"	4 1/8" x 3 3/8" x 3 3/8"	5 1/2	1773	4.75
10-13	700	110	2.5-C.T.	3.0	5.0	3.0	2.5	15.25	2 1/2" x 3 3/4"	4 3/8" x 3 1/2" x 3 1/2"	6 1/4	1790	5.50

TYPE "F" MOUNTING—6.3 Volts Single Filament

4-5	650	40	6.3-C.T.	2.0	5.0	2.0			1 1/2" x 2"	3 1/8" x 2 1/2" x 2 3/8"	2 3/4	7742	3.00
6-7	700	70	6.3-C.T.	3.0	5.0	2.0			2 1/2" x 2 1/2"	3 1/8" x 3 3/8" x 3 1/8"	4 1/2	7745	3.50
8-9	700	90	6.3-C.T.	3.75	5.0	3.0			2 1/2" x 2 1/2"	3 1/8" x 3 3/8" x 3 1/8"	5	7748	4.00
10-12	700	110	6.3-C.T.	5.0	5.0	3.0			2 1/2" x 2 1/2"	4 1/8" x 3 1/2" x 3 3/8"	5 3/4	7751	4.75

TYPE "P" MOUNTING—2.5 Volts Single and Double Filaments

4-5	650	40	2.5-C.T.	4.75	5.0	2.0			2" x 2 1/2"	2" x 2 1/2" x 3"	2 3/4	7725	2.50
6-7	700	70	2.5-C.T.	3.5	5.0	3.0	2.5	7.5	2 1/2" x 3 1/8"	3 1/8" x 3 3/8" x 3 1/8"	5	1544	3.50
8-9	700	90	2.5-C.T.	3.0	5.0	3.0	2.5	10.5	2 1/2" x 3 1/8"	3 1/8" x 3 3/8" x 4 1/4"	5	1555	4.00
10-13	700	110	2.5-C.T.	3.0	5.0	3.0	2.5	15.25	3" x 3 3/4"	3 1/4" x 3 3/4" x 4 1/2"	6 1/4	1557	4.75

TYPE "P" MOUNTING—6.3 Volts Single Filament

4-5	650	40	6.3-C.T.	2.0	5.0	2.0			2" x 2 1/2"	2" x 2 1/2" x 3"	2 3/4	7740	2.50
6-7	700	70	6.3-C.T.	3.0	5.0	2.0			2 1/2" x 2 1/2"	2 1/2" x 2 1/2" x 3 1/2"	4 1/2	7743	3.25
8-9	700	85	6.3-C.T.	3.75	5.0	2.0			2 1/2" x 3 1/8"	2 1/2" x 3 1/8" x 3 3/4"	5	7746	3.75
10-12	700	110	6.3-C.T.	5.0	5.0	2.0			2 1/2" x 3 1/8"	2" x 3 3/8" x 4 1/4"	5 3/4	7749	4.50

GUARANTY

Replacement power supply units with the G. T. C. label are fully guaranteed as to electrical characteristics, and against defects in materials or workmanship. They always operate without excessive heat under continuous service anywhere when used for the purpose intended, at or below the specified rating. Any unit proving defective, may be returned direct to the General Transformer Corporation, 1250 W. Van Buren St., Chicago, for adjustment. To assure prompt service, mark package with name and address of sender and write letter stating nature of trouble and when and from whom purchased.

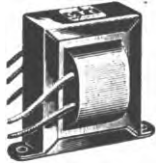


GENERAL **PULL-PUSH** MOISTURE PROOFED TRANSFORMERS

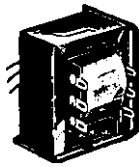


GENERAL REPLACEMENT INPUT TRANSFORMERS FOR "CLASS A" AMPLIFICATION

The exceptionally flat response curve of GENERAL audios assures true reproduction at all frequencies. All Primaries matched to 10,000 ohm plate for type 27, 30, 37, 55, 56, 57, 76, 77, 6C6, 6P5G, 6C5, 1H4G and all other tubes of like characteristics.



Type "2B"



Type "U"



Type "2A"



Type "2B"

STANDARD MULTI-TAP UNIVERSAL OUTPUT TYPE "2B" MOUNTING

No. 6290 (1 lb.).....\$1.50

The universal primary and the tapped secondary, from 2 to 30 ohms, in 2 ohm steps, make it possible to feed practically any straight or push-pull output stage to any dynamic speaker.

Mtg. centers: 2".
Overall dimensions: 1 1/4" x 2 3/8" x 2".

HEAVY DUTY MULTI-TAP UNIVERSAL OUTPUTS TYPE "U" MOUNTING

No. 1337 (1 1/2 lbs.).....\$1.85

Electrical characteristics are the same as No. 6290.
Mtg. centers: 1 3/4" x 1/2" to 1 3/8", or 1 1/4" x 1/2" to 1 3/8".
Overall dimensions: 2" x 2 3/8" x 1 3/8".

TYPE "2B" MOUNTING

No. 2314 (1 1/2 lbs.).....\$1.85

Electrical characteristics same as No. 6290 and No. 1337.
Mtg. centers: 2 3/8".
Overall dimensions: 1 3/8" x 3" x 2 3/8".

INPUT AUDIOS TYPE "U" MOUNTING

No. 3205 (1 1/2 lbs.).....\$1.85

This input audio efficiently feeds any straight or push-pull audio stage on either A.C. or D.C. sets.
Mtg. centers: 1 3/4" x 1/2" to 1 3/8", or 1 1/4" x 1/2" to 1 3/8".
Overall dimensions: 2" x 2 3/8" x 1 3/8".

TYPE "2B" MOUNTING

No. 3256 (1 1/2 lbs.).....\$1.85

Electrical characteristics same as No. 3205.
Mtg. centers: 2 3/8".
Overall dimensions: 1 3/8" x 3" x 2 3/8".

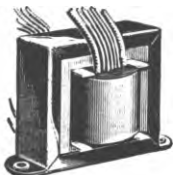
TROPICALLY SEALED INPUT AUDIO TYPE "2B" MOUNTING

No. 4216 (1 1/2 lbs.).....\$2.10

SPECIALLY PROCESSED FOR USE IN HUMID SALT AIR CLIMATE

Electrical characteristics same as No. 3205 and No. 3256.
Mtg. centers: 2 3/8".
Overall dimensions: 1 3/8" x 3" x 2 3/8".

TUBE TESTER PLATE AND FILAMENT TRANSFORMER



In addition to the conventional filament voltages, this transformer has a plate winding, the voltage of which may be impressed directly to the plate of the tube under test. If a D.C. voltage is desired on the tube under test, an 84 type tube may be used as a half wave rectifier.

All leads are color coded and a diagram of connections is included.

No. 2033 (3 lbs.).....\$3.50

Pri. 115v., 60 cycles.
Fil. Sec. 1.5, 2.0, 2.5, 3.3, 5.0, 6.3, 7.5, 15, 25, or 30 volts at 2.0 Amperes.
Plate Sec. 250v. A-C at 40 MA.
Dimensions—2 3/8" high, 4" wide over mounting brackets; 2 1/4" deep, o. c. 3 3/8".

SINGLE PLATE TO SINGLE GRID

Ratio	Type Mtg.	Mtg. C-C	Dimensions		Wgt. Lbs.	G.T.C. Part No.	Price
			H x D x W				
3:1	2A	2 3/8"	2" x 1 3/8" x 3 3/8"		1	1247	\$1.75

SINGLE PLATE TO PUSH-PULL GRIDS

3:1	2B	2"	2" x 1 1/4" x 2 3/8"		1	3223	1.50
3:1	2A	2 3/8"	2" x 1 3/8" x 3 3/8"		1	1254	1.90
4:1	2A	2 3/8"	2" x 1 3/8" x 3 3/8"		1	1263	1.90

TO COUPLE 30 TO 19 IN CLASS B

.75:1	2A	2 3/8"	1 1/8" x 1 3/8" x 2 1/8"		3/4	3252	2.00
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SET-BUILDERS AUDIOS

Application	Ratio	Mtg. Type	Mtg. C-C	Dimensions		Wgt. Lbs.	Part No.	Price
				H x D x W				
Single Plate to Single Grid.....	2:1	2-A	2 3/8"	1 5/8" x 1 1/4" x 2 3/8"		3/4	1277	\$1.10
Single Plate to Push-Pull Grid.....	2:1	2-A	2 3/8"	1 5/8" x 1 1/4" x 2 3/8"		3/4	1278	1.20
Single Plate to Single Grid.....	3:1	2-A	2 3/8"	2" x 1 3/8" x 3 3/8"		1	1279	1.30
Single Plate to Push-Pull Grids.....	3:1	2-A	2 3/8"	2" x 1 3/8" x 3 3/8"		1	1280	1.50
Single Plate to Push-Pull Grids, Heavy Duty.....	3:1	2-A	2 3/8"	2" x 1 3/8" x 3 3/8"		1	1283	1.65
Single Plate to Push-Pull Grids.....	3:1	2-A	3 3/8"	2 3/8" x 2 1/4" x 4"		2 1/4	1282	1.90

OUTPUT TRANSFORMERS

To Feed From	To	Mtg. Type	Mtg. C-C	Dimensions		Wgt. Lbs.	Part No.	Price
				H x D x W				
1C5G, 6F6, 1G5G, 2A5, 33, 41, 42, 47, 79, 89, 6A4.....	6	2B	2 3/8"	2 3/8" x 1 3/8" x 2 3/8"		1	1347	\$1.50
P.P. 19, 31, 43, 45, 53, 71A.....	to	2B	2 3/8"	2 3/8" x 1 3/8" x 2 3/8"		1 1/2	1346	1.65
P.P. 1C5G, 6F6, 1G5G, 33, 41, 42, 47, 79, 89, 6A4.....	15	Ohm	2B	2 3/8" x 1 3/8" x 2 3/8"		1 1/2	1319	1.65
1C5G, 6F6, 1G5G, 33, 41, 42, 47, 31	Voice	2A	2"	1 3/8" x 1 3/8" x 2 3/8"		1	344	1.00

CHOKES Inductances given are not the "30-Henries" commercial ratings but ACTUAL MEASURED VALUES.

Henries	M.A.	Ohms	Mtg. Type	Mtg. C-C	Dimensions		Wgt. Lbs.	Part No.	Price
					H x D x W				
11	50	400	2B	2 3/8"	2 3/8" x 1 3/8" x 2 3/8"		1	1120	\$1.40
7	75	300	2A	3 3/8"	2 1/4" x 1 1/8" x 3 3/8"		1 1/2	1122	1.60
12	100	300	2B	3 3/8"	3 3/8" x 2 1/4" x 3 3/8"		2 1/2	1125	2.00

AC-DC—These Chokes for Replacement in any of the Popular AC-DC Sets

4	30	200	2A	2"	1 3/8" x 1 1/8" x 2 3/8"		1	5104	.90
5	30	300	2A	2"	1 3/8" x 1 1/8" x 2 3/8"		1	5108	.90
7	30	400	2A	2"	1 3/8" x 1 1/8" x 2 3/8"		1	5112	.90
8	30	500	2A	2"	1 3/8" x 1 1/8" x 2 3/8"		1	5116	.90



LINEAR STANDARD TRANSFORMERS

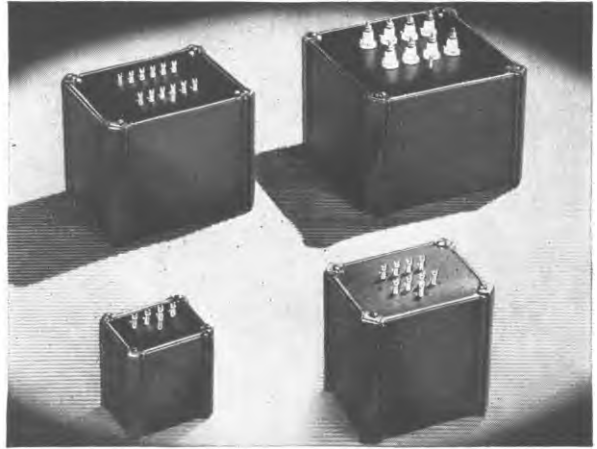
UTC LINEAR STANDARD Components represent the closest approach to the ideal transformer from the standpoint of uniform response, low wave form distortion, high efficiency, thorough shielding and dependability.

The multiple tap windings used make possible a wide combination of impedance connections without impairing the audio range or efficiency.

UTC engineers have spent considerable time studying the many annoying hum pickup difficulties which are prevalent in high gain A.C. operated amplifying equipment. As a result, a special cast alloy has been developed to house all UTC Linear Standard units. In addition, low level input transformers use the new UTC dual and quadruple alloy shields thus making possible a transformer with the lowest hum pickup of any available commercially.

LINEAR STANDARD UNITS FEATURE:

- **True Hum Balancing Coil Structure . . .** maximum neutralization of stray fields.
- **Balanced Variable Impedance Line . . .** permits highest fidelity on every tap of a universal unit . . . no line reflections or transverse coupling.
- **Reversible Mounting . . .** permits above chassis or subchassis wiring.
- **Full Electrostatic Shielding . . .** brought out to separate terminal.
- **Alloy Shields . . .** maximum shielding from inductive pickup.
- **Multiple Coil, Semi-Toroidal Coil Structure . . .** minimum distributed capacity and leakage reactance.
- **Precision Winding . . .** accuracy of winding .1%, perfect balance of inductance and capacity; exact impedance reflection.
- **Hiperm-Alloy . . .** a Stable high permeability nickel-iron core material.
- **High Fidelity . . .** UTC Linear Standard transformers are the only audio units with a **guaranteed** uniform response, from 30 to 20,000 cycles \pm 1 db.



PLATE, CRYSTAL, PHOTOCCELL AND BRIDGING TO LINE TRANSFORMERS

OVERALL DIMENSIONS				Mtg.	Dim.	Weight Lbs.
Case	L	W	H			
LS-1	2 $\frac{1}{8}$	3 $\frac{1}{8}$	3 $\frac{1}{8}$	1 $\frac{1}{8}$	2 $\frac{1}{8}$	4
LS-2	3 $\frac{1}{2}$	4 $\frac{3}{8}$	4 $\frac{3}{8}$	2 $\frac{1}{8}$	3 $\frac{1}{8}$	8
LS-3	5	5 $\frac{3}{8}$	5 $\frac{3}{8}$	4 $\frac{3}{8}$	5 $\frac{1}{8}$	15
LS-4	6 $\frac{7}{8}$	6 $\frac{7}{8}$	6 $\frac{7}{8}$	5 $\frac{3}{8}$	5 $\frac{3}{8}$	23
CC-1	7 $\frac{3}{8}$	10 $\frac{1}{2}$	5 $\frac{1}{4}$	6 $\frac{1}{4}$	4 $\frac{1}{2}$	33
CC-2	11	11	9 $\frac{1}{4}$	9 $\frac{3}{8}$	4 $\frac{3}{8}$	83
LS-6	16	14	16	8	14 $\frac{1}{2}$	200
LS-7	21	18	21	11 $\frac{3}{8}$	19 $\frac{3}{8}$	500

LOW IMPEDANCE TO GRID TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	Shielding and hum reduction	Case No. List Price
LS-10	Low impedance mike, pick-up, or multiple line to grid	50, 125, 200, 250, 333, 500 ohms	60,000 ohms in two sections	Dual Alloy shield -74DB	LS-1 \$15.00
LS-10X	As above	As above	50,000 ohms	Quadruple alloy shield -92DB	LS-1 20.00
LS-12	Low impedance mike, pick-up or multiple line to push pull grids	50, 125, 200, 250, 333, 500 ohms	120,000 ohms overall in two sections	Dual alloy shield -74DB	LS-1 20.00
LS-12X	As above	As above	80,000 ohms overall in two sections	Quadruple alloy shield -92DB	LS-1 25.00
LS-14	Low impedance mike, pick-up, or parallel mixer to grid	2.5, 5.5, 10, 15, 22, 30, 38, 60 ohms	60,000 ohms in two sections	Dual alloy shield -74DB	LS-1 20.00
LS-14X	As above	As above	50,000 ohms	Quadruple alloy shield -92DB	LS-1 25.00
LS-15	Three isolated lines or pads to one or two grids	30, 50, 200, 250 ohms each primary	60,000 ohms overall, in two sections	Dual Alloy shield -74DB	LS-1 20.00
LS-15X	As above	As above	As above	Quadruple alloy shield -92DB	LS-1 25.00
LS-18	High level multiple line to push pull grids	50, 125, 200, 250, 333, 500 ohms	50,000 ohms overall, in two sections	Alloy casting -50DB	LS-2 22.00

Type No.	Application	Primary Impedance	Secondary Impedance	Shielding and hum reduction	Case No. List Price
LS-50	Single plate to multiple line	8,000 to 15,000 ohms	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1 \$15.00
LS-51	Push pull low level plates to multiple line	8,000 to 15,000 ohms each side	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1 15.00
LS-37	Crystal microphone or pick-up to multiple line	100,000 ohms	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1 15.00
LS-38	Crystal microphone or pick-up to multiple line, with internal equalizer	100,000 ohms	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1 20.00
LS-39	Photocell, high-mu triode diode or over-biased detector to multiple line	100,000 ohms	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1 15.00
LS-150	Bridging transformer from 50 to 500 ohm line to multiple line	4,000 ohms, bridging	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1 15.00
LS-151	Bridging transformer from 50 to 500 ohm line to multiple line	16,000 ohms, bridging	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1 15.00

MIXING TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	Shielding and hum reduction	Case No. List Price
LS-30	Mixing, low impedance mike, pickup, or multiple line to multiple line	50, 125, 200, 250, 333, 500 ohms	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1 \$15.00
LS-30X	As above	As above	As above	Quadruple alloy shield -92DB	LS-1 20.00
LS-31	Three isolated lines or pads to multiple line	30, 50, 200, 250 ohms each primary	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1 20.00
LS-31X	As above	As above	As above	Quadruple alloy shield -92DB	LS-1 25.00
LS-32	Mixing, low impedance mike, pickup, or parallel mixer to multiple line	2.5, 5.5, 10, 15, 22, 30, 38, 60 ohms	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1 20.00

INTERSTAGE AUDIO TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	Shielding and hum reduction	Case No. List Price
LS-19	Single plate to PP grids like 2A3, 59, 46, 6L6	8,000 to 15,000 ohms; split primary	95,000 ohms; turn ratio 1.25:1 each side; split secondary	Alloy casting -50 DB	LS-1 \$15.00
LS-20	Single plate to single grid	8,000 to 15,000 ohms. Also for bridging 50/500 ohm line	60,000 ohms; 2:1 turn ratio	Dual alloy shield -74DB	LS-1 10.00
LS-28	Single plate to single grid	As above, will carry 8 MA DC	60,000 ohms 2:1 turn ratio	Dual alloy shield -74DB	LS-1 13.00
LS-21	Single plate to push pull grids	8,000 to 15,000 ohms. Also for bridging 50/500 ohm line	135,000 ohms; turn ratio 1.5:1 each side. Primary and secondary each in two sections	Dual alloy shield -74DB	LS-1 13.00
LS-40	Single plate to push-pull grids	As above, will carry 8 MA DC	135,000 ohms 1.5:1 turn ratio each side	Dual alloy shield -74 DB	LS-1 16.00
LS-22	Push pull plates to push pull grids	8,000 to 15,000 ohms	38,000 ohms each secondary, turn ratio 1.6:1 each side of center. Primary and secondary each in two sections	Alloy casting -50DB	LS-2 22.00
LS-24	Single plate or multiple line to one or two grids	High impedance primary 8,000 to 15,000 ohms. Low impedance primary 50, 125, 200, 250, 333, 500 ohms	60,000 ohms; 2:1 turn ratio Secondary impedance 60,000 ohms overall	Dual alloy shield -74DB	LS-1 20.00
LS-25	P.P. plates to P.P. grids. Medium level	8,000 to 15,000 ohms; split primary	100,000 ohms overall; 25,000 ohms each side. Turn ratio 1.3:1. Split secondary	Alloy casting -50DB	LS-1 18.00
LS-26	Bridging line to 1 or 2 grids	5000	60,000 ohms in two sections	Dual alloy shield -74 DB	LS-1 15.00

DRIVER TRANSFORMERS

Type No.	Application	Primary Impedance	Reflected Secondary Impedance	Case No. List Price
LS-5	Driver, multiple line to class B 838's, 805's, ZB-120's, 203A's and similar tubes	50, 125, 200, 250, 333, 500 ohms	2,000 ohms; 1:2 overall turns ratio	LS-2 \$30.00
LS-6	Driver, push pull 45's, 59's, 2A3's, 6A5's, etc. to push pull 845 or 211D grids	800 to 2,000 ohms	.6 primary impedance turns ratio 1.3:1 overall	LS-2 22.00
LS-7	Push pull 56, 6C5 or similar plates to A prime 45's, 42's, 6F6's, 2A3's	8,000 to 15,000 ohms	.45 primary impedance turn ratio 1.5:1 overall	LS-2 22.00
LS-47X	Driver from push pull 2A3's, 6A5G's, or 300A's to Class B 838's, 203A's 805's, or ZB120's	800 to 1,000 ohms	.1 pri. impedance turns ratio, Pri. 1/2 Sec. 3.2:1	LS-2 22.00
LS-48	Driver transformer push pull 845's, to 204 or 849 grids in class B	1,000 to 2,000 ohms	.038 pri. impedance turns ratio, Pri. 1/2 Sec. 5.1:1	LS-4 35.00
LS-49	Push pull parallel 2A3, 6A5G, or 300A tubes to four 838, 203A, 805, or ZB120 tubes	800 to 2,000 ohms	.028 pri. impedance turns ratio, Pri. 1/2 Sec. 6.0:1	LS-4 30.00

HIGH LEVEL MATCHING TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary	Case No. List Price
LS-33	High level line matching. 15 watts	50, 125, 200, 250, 333, 500 ohms	1.2, 2.5, 5, 7.5, 10, 15, 20, 30, 50, 125, 200, 250, 333, 500 ohms	LS-2 \$15.00
LS-34	High level line matching. 30 watts	50, 125, 200, 250, 333, 500 ohms	1.2, 2.5, 5, 7.5, 10, 15, 20, 30, 50, 125, 200, 250, 333, 500 ohms	LS-3 20.00



OUTPUT TRANSFORMERS TO LINE AND VOICE COIL

Type No.	Primary will match following tubes	Primary Impedance	Secondary Impedance	Case No. List Price
LS-62	Push pull 245, 250, 6V6, 42 or 2A5 A prime	8,000 ohms	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-2 \$20.00
LS-54	Same as above	8,000 ohms	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-2 14.00
LS-55	Push pull 2A3's, 6A5G's, 300A's, 275A's, 6A3's	5,000 ohms plate to plate and 3,000 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-2 20.00
LS-57	Same as above	5,000 ohms plate to plate and 3,000 ohms plate to plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-2 14.00
LS-58	Push pull parallel 2A3's, 6A5G's, 300A's, 6A3's	2,500 ohms plate to plate and 1,500 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-4 30.00
LS-61	Push pull 6B5, 6A6, 53, 6F6, 71A, 59, 79, 89, Class B46, 59's	10,000 ohms plate to plate and 6,000 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-2 20.00
LS-63	Same as above	10,000 ohms plate to plate and 6,000 ohms plate to plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-2 14.00
LS-6L1	Push pull 6L6's self bias	6,600 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-3 30.00
LS-6L3	Same as above	6,600 ohms plate to plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-3 20.00
LS-6L4	Push pull 6L6's fixed bias or push pull parallel 6L6's self bias	3,800 ohms plate to plate and 3,300 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-4 35.00
LS-845	845 tubes class AB	8,800 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	CC-1 60.00

OUTPUT TRANSFORMERS TO HIGH IMPEDANCE (RF) LOAD

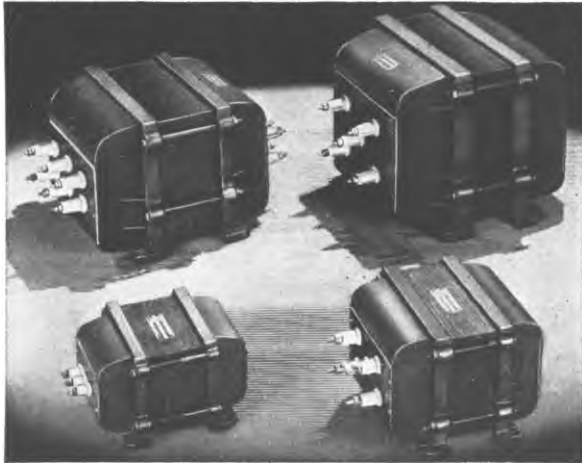
Type No.	Primary will match the following tubes	Primary Impedance	Secondary Impedance	Case No. List Price
LS-56	Push pull 2A3's, 6A5G's, 300A's, 275A's, 6A3's. +36DB	5,000 ohms plate to plate and 3,000 ohms plate to plate	6,000, 5,000, 4,000, 1,800, 1,500, 1,000, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-2 \$20.00
LS-66	Class B 203A, 838, ZB120, 805 +46DB	9,000 ohms plate to plate	5,000, 3,500, 2,500, 2,100, 1,250, 600	CC-1 70.00
LS-67	Class B 203A, 838, ZB120, 805 +46DB	9,000 ohms plate to plate	10,000, 2,500	CC-1 70.00
LS-69	Class B 849, 204A +52DB	10,500 ohms plate to plate	6,000, 5,000, 4,000, 1,800, 1,500, 1,000	LS-6* 200.00
LS-189	Push pull parallel 849's Class B or six push pull parallel 204A's +55DB	5,250 ohms plate to plate	5,000, 4,200, 3,300, 1,500, 1,250, 830	LS-7* 400.00

*Special oil filled construction



LINEAR STANDARD POWER COMPONENTS

(SEE PAGE 2 FOR DIMENSIONS)



COMBINED PLATE AND FILAMENT TRANSFORMERS

Type No.	Primary Voltage 50/60 cycles	High Voltage	Filament Windings	Case No. List Price
LS-180	115	225-0-225 15 MA	6.3 V.C.T.-2A 6.3 V.C.T.-5A	LS-1 \$10.00
LS-180H	Same as above but in hum-balanced construction (dual coils)			LS-1 13.00
LS-190	100, 105, 110, 115, 120, 125	350-300-0-300-350 125 MA	5 V.C.T.-3A 2.5 V.C.T.-6A 6.3 V.C.T.-3A	LS-3 18.00
LS-190H	Same as above but in hum-balanced construction (dual coils)			LS-3 25.00
LS-191	100, 105, 110, 115, 120, 125	325-250-0-250-325 35 MA	5 V.C.T.-3A 2.5 V.C.T.-2A 6.3 V.C.T.-2A	LS-2 15.00
LS-70	100, 105, 110, 115, 120, 125	425-375-0-375-425 200 MA 70-0-70 50 MA	5 V.C.T.-3A 5 V.C.T.-3A 2.5 V.C.T.-10A 6.3 V.C.T.-1A 6.3 V.C.T.-3A	LS-4 25.00
LS-72	100, 105, 110, 115, 120, 125	525-450-0-450-525 250 MA 70-0-70 50 MA	5 V.C.T.-3A 2.5 V.C.T.-3A 2.5 V.C.T.-3A 6.3 V.C.T.-1A 6.3 V.C.T.-3A tapped at 5 V.C.T.-6A	LS-4 25.00
LS-73	100, 105, 110, 115, 120, 125	500-400-0-400-500 500 MA 70-0-70 50 MA	5 V.C.T.-6A 2.5 V.C.T.-10A 2.5 V.C.T.-3A 6.3 V.C.T.-4A 6.3 V.C.T.-6A tapped at 5 V.C.T.-6A	CC-1 35.00

PLATE TRANSFORMERS

Type No.	Primary Voltage 50/60 Cycles	High Voltage	DC Current	List Price
LS-181	100, 110, 120, 220, 230, 240	1500-1250-0-1250- 1500	200 MA	\$45.00
LS-182	100, 110, 120, 220, 230, 240	1500-1250-0-1250- 1500	350 MA	60.00
LS-183	100, 110, 120, 220, 230, 240	1750-1500-0-1500- 1750	400 MA	75.00
LS-184	100, 110, 120, 220, 230, 240	3500-3000-2500-0- 2500-3000-3500	500 MA	110.00
LS-185	100, 110, 120, 220, 230, 240	3500-3000-2500-0- 2500-3000-3500	1.2 amp.	250.00

FILAMENT TRANSFORMERS

Type No.	Application	Primary Voltage 50/60 Cycles	Secondary Voltage	Insulation Voltage	Case No. List Price
LS-80	866A rectifiers	100, 110, 120, 220, 230, 240	2.5 V.C.T.-10A	12,000	LS-3 \$15.00
LS-82	872 rectifiers	100, 110, 120, 220, 230, 240	5 V.C.T.-20A	12,000	LS-3 20.00
LS-84	203A, 845, etc. HF200, HF300	100, 110, 120, 220, 230, 240	10 V.C.T.-8A	12,000	LS-3 15.00
LS-85	Combined fila- ment transformer for 866 rectifiers and 845 or 203A audio tubes	100, 110, 120, 220, 230, 240	2.5 V.C.T.-10A 10 V.C.T.-8A	10,000	LS-3 25.00
LS-88	6.3 volt tubes	105, 115, 125	6.3 V.C.T.-2A	2,500	LS-1 7.50
LS-87A	7.5 volt tubes	105, 115, 125	7.5 V.C.T.-9A	2,500	LS-3 15.00
LS-118	849, 204A, HF300	100, 110, 120, 220, 230, 240	11 V.C.T.-10A	2,500	LS-3 20.00
LS-120	866 bridge rectifier	100, 110, 120, 220, 230, 240	2.5 V.C.T.-10A 2.5 V.C.T.-5A 2.5 V.C.T.-5A	12,000	LS-3 25.00
LS-121	872 bridge rectifier	100, 110, 120, 220, 230, 240	5 V.C.T.-20A 5 V.C.T.-10A 5 V.C.T.-10A	12,000	LS-4 35.00
LS-83	872A, 575 or 869 rectifiers	100, 110, 120, 220, 230, 240	5 V.C.T.-20A	35,000	LS-4 40.00
LS-89A	Three 869 rectifiers	100, 110, 120, 220, 230, 240	5 V.C.T.-60A	35,000	CC-1 60.00

FILTER, SWINGING, AND AUDIO CHOKES

Type No.	Application	Inductance	DC Current	DC Resistance	Case No. List Price
LS-90	Filter choke with hum bucking tap	Series-50 hy Parallel-12.5 hy	50 MA 100 MA	510 ohms 128 ohms	LS-2 \$8.50
LS-91	Filter choke with hum bucking tap	Series-14 hy Parallel-3.5 hy	125 MA 250 MA	200 ohms 50 ohms	LS-2 8.50
LS-92	Filter choke with hum bucking tap	Series-16 hy Parallel-4 hy	175 MA 350 MA	96 ohms 24 ohms	LS-3 15.00
LS-93	Filter choke with hum bucking tap	Series-26 hy Parallel-6.25 hy	200 MA 400 MA	112 ohms 28 ohms	LS-4 25.00
LS-94	Parallel feed and filter choke	Series-320 hy Parallel-80 hy	3 MA 6 MA	6400 ohms 1600 ohms	LS-1 10.00
LS-95	Parallel feed and filter choke	Series-720 hy Parallel-180 hy	5 MA 10 MA	3600 ohms 900 ohms	LS-2 20.00
LS-950	Filter choke with hum bucking tap	Series-100 hy Parallel-25 hy	35 MA 75 MA	1000 ohms 250 ohms	LS-2 10.00
LS-96	Filter choke with hum bucking tap	Series-20 hy Parallel-5 hy	500 MA 1 amp.	90 ohms 22.5 ohms	CC-1 40.00
LS-97	Swinging choke	8-40 hy	200 MA	100 ohms	LS-3 15.00
LS-980	Filter choke with hum bucking tap	Series-14 hy Parallel-3.5 hy	400 MA 800 MA	90 ohms 22.5 ohms	LS-4 25.00
LS-98	Swinging choke	8-40 hy	400 MA	90 ohms	LS-4 25.00
LS-99	Filter choke with hum bucking tap	Series-20 hy Parallel-5 hy	1 amp. 2 amp.	50 ohms 12.5 ohms	CC-2 60.00
LS-105	Swinging choke	8-40 hy	1 amp.	50 ohms	CC-2 60.00
LS-1110	Filter choke with hum bucking tap	Series-20 hy Parallel-5 hy	350 MA 700 MA	80 ohms 20 ohms	CC-1 32.00
LS-1120	Filter choke with hum bucking tap	Series-12 hy Parallel-3 hy	700 MA 1.4 amp.	65 ohms 16 ohms	CC-1 40.00
LS-101	Modulation reactor	50 hy	175 MA	350 ohms	LS-4 25.00
LS-102	Modulation reactor	50 hy	350 MA	250 ohms	CC-1 40.00
LS-103	Modulation reactor	50 hy	500 MA	175 ohms	CC-2 60.00
LS-104A	Modulation reactor	50 hy	1.3 amp.	75 ohms	Spec. 300.00

UTC HIPERM ALLOY TRANSFORMERS

The UTC Hiperm Alloy audio and power transformers are specifically designed for portable and compact high fidelity service. The frequency characteristic of the Hiperm Alloy audio units is uniform from 30 to 20,000 cycles. The outer case is of high conductivity alloy finished in high polish black anodic. Through the use of tapped metallic inserts, these transformers can be mounted with the terminals either up or down, and with no waste space. A hum balanced coil structure is used on all audio units to insure minimum pickup. The electrostatic shields are brought out to separate terminals on the terminal strip.

The H-1 case units weigh 1 1/4 lbs. and are 2" x 2 3/8" x 3" high with 1 3/8" mtg. centers. The H-2 case units weigh 2 1/4 lbs. and are 2 7/8" x 3 3/8" x 3 3/4" high with 2" x 2 3/8" mtg. centers.

LOW IMPEDANCE TO GRID AND MIXING TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	Case No. List Price
HA-100	Low impedance mike, pickup, or multiple line to grid	50, 125, 200, 250, 333, 500 ohms	60,000 ohms in two sections	H-1 \$12.50
HA-100X	Same as above but with tri-alloy internal shield to effect very low hum pickup			H-1 17.50
HA-101	Low impedance mike, pickup, or multiple line to push pull grids	50, 125, 200, 250, 333, 500 ohms	120,000 ohms overall, in two sections	H-1 15.00
HA-101X	Same as above but with tri-alloy internal shield to effect very low hum pickup			H-1 20.00
HA-103A	Low impedance mike, pickup, or parallel mixer to grid	2.5, 5.5, 10, 15, 22, 30, 38, 60 ohms	60,000 ohms in two sections	H-1 15.00
HA-108	Mixing, low impedance mike, pickup, or multiple line	50, 125, 200, 250, 333, 500 ohms	50, 125, 200, 250, 333, 500 ohms	H-1 12.50
HA-108X	Same as above but with tri-alloy internal shield to effect very low hum pickup			H-1 17.50
HA-130X	Three isolated lines or pads to one or two grids with tri-alloy internal shield	30, 50, 200, 250 ohms each primary	60,000 ohms overall, in two sections	H-1 20.00

PLATE, CRYSTAL AND PHOTOCELL TO LINE TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	Case No. List Price
HA-111	Crystal microphone or pickup, to multiple line	100,000 ohms	50, 125, 200, 250, 333, 500 ohms	H-1 \$12.50
HA-112	Photocell, high-mu triode, diode or over-biased detector to multiple line	100,000 ohms	50, 125, 200, 250, 333, 500 ohms	H-1 12.50
HA-113	Single plate to multiple line	8,000 to 15,000 ohms	50, 125, 200, 250, 333, 500 ohms	H-1 12.50
HA-114	Push pull low level plates to multiple line	8,000 to 15,000 ohms	50, 125, 200, 250, 333, 500 ohms	H-1 12.50

UTC ULTRA COMPACT AUDIO UNITS

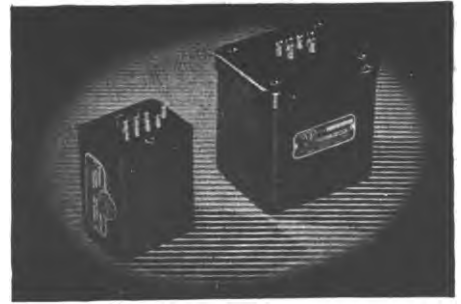
The UTC Ultra Compact audio units are small, light-weight units ideal for remote pickup and similar equipment. High fidelity is obtainable in all individual units, the frequency response being ± 2 DB from 30 to 20,000 cycles, except A-11, A-21, A-25 (50-10,000 cycles). All units employ true hum balancing coil structures, which combined with a high conductivity outer case, afford a maximum of inductive shielding.

Ultra Compact audio units weigh 5 1/2 ounces and have overall dimensions 1 1/8" x 1 7/8" x 1 1/8". Mounting dimensions are 1 1/8" between centers, top and bottom.



Type No.	Application	Primary Impedance	Secondary Impedance	List Price
A-10	Low impedance mike, pickup, or multiple line to grid	50, 125, 200, 250, 333, 500 ohms	50,000 ohms	\$10.00
A-11	Line to grid, tri-alloy shielding for low pickup	50, 200, 500	50,000 ohms for 1 or 2 grids	10.00
A-12	Low impedance mike, pickup, or multiple line to push pull grids	50, 125, 250, 250, 333, 500 ohms	80,000 ohms overall, in two sections	10.00
A-14	Dynamic microphone to one or two grids	30 ohms	50,000 ohms overall, in two sections	9.00
A-18	Single plate to single grid	8,000 to 15,000 ohms	60,000 ohms, 2:1 turn ratio	8.00

Type No.	Application	Primary Impedance	Secondary Impedance	List Price
A-17	Single plate to single grid	As above, will carry 8 MA DC	60,000 ohms 2:1 turn ratio	\$11.00
A-18	Single plate to two grids	8,000 to 15,000 ohms	80,000 ohms overall, 2.3:1 turn ratio overall	9.00
A-19	Single plate to two grids	As above, will carry 8 MA DC	80,000 ohms 2.3:1 turn ratio	12.00
A-20	Mixing, low impedance mike, pickup, or multiple line to multiple line	50, 125, 200, 250, 333, 500 ohms	50, 125, 200, 250, 333, 500 ohms	10.00
A-21	Mixing, tri-alloy shielding for low pickup	50, 200, 500	50, 200, 500	10.00
A-24	Single plate to multiple line	8,000 to 15,000 ohms	50, 125, 200, 250, 333, 500 ohms	10.00
A-25	Single plate to multiple line	As above, will carry 8 MA DC	50, 125, 200, 250, 333, 500 ohms	9.00
A-26	Push pull low level plates to multiple line	8,000 to 15,000 ohms each side	50, 125, 200, 250, 333, 500 ohms	10.00
A-27	Crystal microphone to multiple line	100,000 ohms	50, 125, 200, 250, 333, 500 ohms	10.00
A-30	Audio choke, 300 henrys @ 2 MA 6000 ohms D.C., 75 henrys @ 4 MA 1500 ohms D.C., inductance with no D.C. 450 henrys			7.00



INTERSTAGE AUDIO TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	Case No. List Price
HA-104	Single plate to P.P. grids like 2A3, 59, 46, 6L6	8,000 to 15,000 ohms	95,000 ohms; turn ratio 1.25:1	H-1 \$13.00
HA-105	Single plate to single grid	8,000 to 15,000 ohms	60,000 ohms 2:1 turn ratio	H-1 9.00
HA-106	Single plate to push pull grids	8,000 to 15,000 ohms	135,000 ohms 1.5:1 ratio, each side	H-1 11.00
HA-107	Push pull plates to push pull grids	8,000 to 15,000 ohms	35,000 ohms each secondary 1.5:1 turn ratio overall	H-2 15.00

POWER TRANSFORMERS

Type No.	Primary Voltage 50/60 Cycles	High Voltage	Filament Windings	Case No. List Price
HP-122	115	220-0-220 15 MA	6.3 V.C.T.-.5A 6.3 V.C.T.-1.2A	H-1 \$10.00
HP-123	115	275-0-275 35 MA	6.3 V.C.T.-.5A 6.3 V.C.T.-2A	H-2 15.00

FILTER AND AUDIO CHOKES

Type	Inductance	DC Current	DC Resistance	Case No. List Price
HC-115	Series-400 hy Parallel-100 hy	2.5 MA 5 MA	7,000 ohms 1,750 ohms	H-1 \$8.50
HC-116	Series-600 hy Parallel-150 hy	8 MA 16 MA	4,000 ohms 1,000 ohms	H-2 15.00
HC-117	60 hy	15 MA	3,000 ohms	H-1 8.50
HC-127	60 hy	40 MA	1,000 ohms	H-2 15.00
HC-128	Series 50 Hy. Parallel 12.5 Hy.	50 MA 100 MA	500 125	H-2 8.50

OUNCER HIGH FIDELITY AUDIO UNITS

The new UTC OUNCER series represents the acme in compact quality transformer practice. These units are ideal for hearing aid, aircraft, glider, portable, concealed service, and similar applications. The overall dimensions are $\frac{7}{8}$ " diameter by $1\frac{1}{16}$ " height, including lugs. Mounting is effected by two screws, opposite the terminal board side, spaced $\frac{15}{16}$ ". Weight approximately one ounce. Units not carrying D.C. have high fidelity characteristics being uniform from 40 to 15,000 cycles. Items with D.C. in pri. and O-14 and O-15 are for voice frequencies from 150 to 4,000 cycles.



OUNCER HIGH FIDELITY AUDIO UNITS (MAX. LEVEL 0 DB)

200 ohm balanced winding may be used for 250 ohms.

Type No.	Application	Pri. Imp.	Sec. Imp.	List. Price
0-1	Mike. pickup or line to 1 grid	50, 200, 500	50,000	\$10.00
0-2	Mike. pickup or line to 2 grids	50, 200, 500	50,000	10.00
0-3	Dynamic mike to 1 grid	7.5/30	50,000	9.00
0-4	Single plate to 1 grid	8,000 to 15,000	60,000	8.00
0-5	Single plate to 1 grid, D.C. in Pri.	8,000 to 15,000	60,000	8.00
0-6	Single plate to 2 grids	8,000 to 15,000	95,000	9.00
0-7	Single plate to 2 grids, D.C. in Pri.	8,000 to 15,000	95,000	9.00
0-8	Single plate to line	8,000 to 15,000	50, 200, 500	10.00
0-9	Single plate to line, D.C. in Pri.	8,000 to 15,000	50, 200, 500	10.00
v-10	Push pull plates to line	8,000 to 15,000 each side	50, 200, 500	10.00
0-11	Crystal mike or pickup to line	50,000	50, 200, 500	10.00
0-12	Mixing and matching Reactor, 200 Hys—no D.C., 50 Hys.—2 MA.	50,200	50, 200, 500	9.00
0-13	Reactor, 200 Hys—no D.C., 50 Hys.—2 MA. D.C., 6,000 ohms			7.00
-14	50:1 mike or line to 1 grid	200	$\frac{1}{2}$ megohm	10.00
-15	10:1 single plate to 1 grid	8,000 to 15,000	1 megohm	10.00

UTC VARITRAN CONTROLS

FOR CONTROLLING: Line Voltage, Rectifier Output, Motors, Lights, Heaters, etc.

- Variable voltage transformers for smooth voltage control. Varitran units employ a special non-fusing roller contact to contact the exposed turns of an auto-transformer winding. Rugged construction is employed, with glass insulation to assure dependability. Output of 115 Volt unit variable from 0-130 volts (230 Volt unit; 0-260 V.) smoothly without interrupting circuit. Output voltage independent of load.

- Maximum Amp. rating applies from 0 to 20 and 95 to 130 volts. Between 20 and 95 volts current rating tapers off to 50% of rated current at 65 V. point.

- Top and bottom mounting for laboratory bench or panel mounting. All units supplied mounted, with terminal strips as in Fig. A except V-1 (Fig. B) and V-1M (Fig. C).

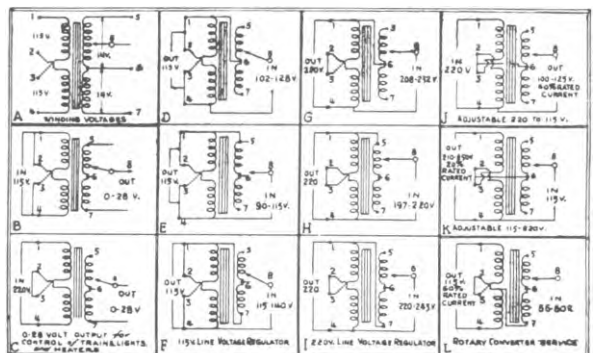


UNIVERSAL VARITRANS

These varitrans have a 115/230 V. primary winding and a smoothly variable secondary from 0-28 volts. Line voltage control can be effected for 102/140 V. or 197/243 volts to 115 V. or 220 volts respectively. The 28 volt secondary can also be used for low voltage lights, cauteries, trains, rectifiers, etc. The primary and secondary windings can be arranged to effect variable 220/115 or 115/220 volt arrangements. Appearance as in Fig. A above.

Type	Input Voltage	Output Voltage	Watts	Maximum Amps.	Approx. Wt. Lbs.	Net Price
V-0	115 volts	0-130	230	2	8	\$7.50
V-0-B	230 volts	0-260	230	1	10	9.50
V-1	115 volts	0-130	570	5	11	10.00
V-1-M	115 volts	0-130	570	5	12	15.00
V-2	115 volts	0-130	570	5	11	9.00
V-2-B	230 volts	0-260	570	2.5	14	11.50
V-3	115 volts	0-130	850	7.5	14	14.00
V-3-B	230 volts	0-260	850	3.75	18	18.00
V-4	115 volts	0-130	1250	11	32	20.00
V-4-B	230 volts	0-260	1250	5.5	38	25.00
V-5	115 volts	0-130	1950	17	45	32.00
V-5-B	230 volts	0-260	1950	8.5	56	37.00
V-6	115 volts	0-130	3500	30	90	60.00
V-6-B	230 volts	0-260	3500	15	90	70.00
V-7	115 volts	0-130	5000	44	120	87.00
V-7-B	230 volts	0-260	5000	22	120	95.00

Type	Max. Amps. Output	Approx. Dimensions	Approx. Weight, Lbs.	Net Price
VL-0	1.5	3 $\frac{3}{4}$ x 4 $\frac{1}{2}$ x 3 $\frac{3}{4}$	5	\$5.50
VL-1	3.5	4 $\frac{3}{8}$ x 6 x 4 $\frac{3}{8}$	7	6.50
VL-2	6	4 $\frac{3}{8}$ x 6 x 5 $\frac{1}{8}$	10	8.00
VL-3	11	4 $\frac{3}{8}$ x 6 x 6 $\frac{7}{8}$	15	13.00





VARIMATCH TRANSFORMERS

(For dimensions of cases see following page)

UTC VARIMATCH transformers are available in various types for every PA and transmitter requirement. Thru unique construction high efficiency and good response are obtainable on all terminations.

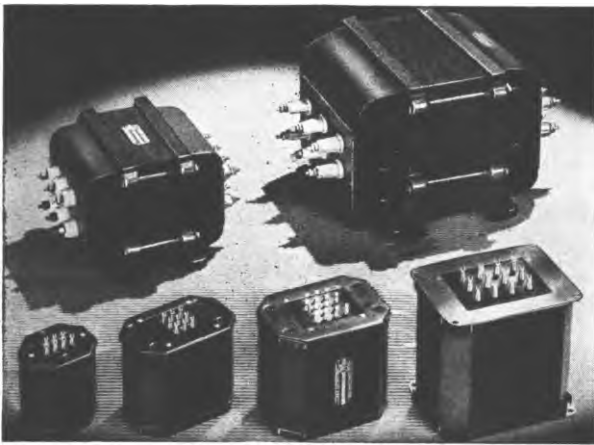
Pri. Ohms P to P	SECONDARY RF LOAD IMPEDANCES AVAILABLE										AUDIO LOAD IMPEDANCE		
	1070	1950	2150	3620	3920	4300	6350	6550	7900	8600	11400	200	350
2000	1070	1950	2150	3620	3920	4300	6350	6550	7900	8600	11400	200	350
3000	1620	2050	3240	5500	5900	6500	9400	10000	11800	13000	17000	300	520
4000	1380	1850	2160	2850	3450	4300	5500	7300	8650	12500	17400	250	400
5000	1730	2300	2700	3500	4300	5400	7000	9150	10800	15700	21600	300	500
6000	1070	2140	2180	2750	3620	4250	4300	5150	6350	8300	8600	200	370
7000	1250	2400	2500	3200	4280	5000	5050	6000	7300	9700	10000	230	430
8000	1440	2760	2900	3700	4900	5650	5800	6900	8400	10000	12000	270	500
9000	1620	2050	3100	3240	3900	4150	6200	6500	7750	9400	12500	300	550
10000	1800	2300	3500	4300	4600	6100	6900	7100	8600	10500	14000	330	600
12000	2070	2150	2750	4250	4320	5150	7250	8300	8700	12500	17400	370	400
14000	2440	3200	4900	6000	9700							300	430
16000	2780	3700	5600	6900	11000							370	400
18000	3140	4150	6300	7750	12500							550	

500* 1070 1950 2150 3620 3920 4300 6350 6550 7900 8600 11400

* In some cases it is desired to match an RF load to the 500 Ohm output of a PA amplifier. The terminal arrangement noted will take care of this application.

† These impedances are suitable for PA applications. If a monitor speaker is desired, proper distribution of power is obtained by operating this low impedance into the high impedance primary of the speaker transformer.

Intermediate P.P. primary impedance values available in addition to those shown.



VARIMATCH MODULATION TRANSFORMERS

Will match any modulator tube to any RF load

Here's the answer to your modulation problem. A line of transformers providing a universal range of load impedances for any modulator combination. The VARIMATCH transformer can never become obsolete. All units carry class C current and are supplied with charts giving impedance combinations.

Type No.	Max. Audio Watts	Max. Class C Input	Typical Modulator Tubes	Case	List Price
VM-0	12	25	30, 49, 79, 6A6, 53, 2A3, 6B5	PA-1	\$5.00
VM-1	30	60	6V6, 6B5, 2A3, 42, 46, 6L6, 210	PA-2	8.00
VM-2	60	125	801, 6L6, 809, 4-46, T-20, 1608	PA-3	12.50
VM-3	125	250	800, 807, 845, TZ-20, RK-30, 35-T	PA-4	20.00
VM-4	300	600	50-T, 203A, 805, 838, T-55, ZB-120	CA-1	32.50
VM-5	600	1200	805, HF-300, 204A, HK-354, 250TH	CA-3	70.00

PA VARIMATCH OUTPUTS

Universal units designed to match any tubes within the rated output power, to line or voice coil. Output impedance 500, 200, 50, 15, 8, 5, 3, 1.5 ohms.

Type No.	Audio Watts	Typical Tubes	Case No.	List Price
PVM-1	12	42, 43, 45, 47, 2A3, 6A6, 6F6, 25L6	PA-1	\$5.00
PVM-2	30	42, 45, 2A3, 6L6, 6V6, 6B5	PA-2	8.00
PVM-3	60	46's, 50's, 300A's, 6L6's, 801, 807	PA-3	12.50
PVM-4	125	800's, 801's, 807's, 4-6L6's, 845's	PA-4	20.00
PVM-5	300	211, 242A's, 203A's, 838's, 4-845's, ZB-120's	CA-1	32.50

VARIMATCH DRIVER TRANSFORMERS

Type No.	Primary	Typical Output Tubes	Case No. List Price
PA-51AX	All single tubes like: 6C5, 30, 49, 53, 79, 89, 6A6, 45, 46, 2A3	19, 30, 49, 79, 89, 2A3, 45, 46, 6L6, 42, 59	PA-1 \$5.50
PA-53AX	P. P. tube like: 45, 59, 2A3, 6B5, 6L6	46, 4-46, 841, 210, 801, RK-18, 800, 203A, 838, 805, 50T, 830B	PA-2 7.50
PA-59AX	50, 200, 500 ohm line	805, 838, 203A, ZB-120, 100TH, 800, 55T, RK-18	PA-2 7.50
PA-238AX	4-2A3, 4-45, 4-50, 2-211A, 2-845	4-805's, 4-838's, 4-203A's, 2-204's, 2-843's, 2-HF300's, 2-HF200's, 2-250TH's, 2-450TH's	PA-3 17.50
PA-512	50, 200, 500 ohm line	2-250TH, 2-450TH, 2-HF200, 2-HF300, 2-204A, 2-849	PA-3 20.00

VARIMATCH LINE TO VOICE COIL TRANSFORMERS

The UTC VARIMATCH line to voice coil transformers will match any voice coil or group of voice coils to a 500 ohm line. More than 50 voice coil combinations can be obtained from the LVM-1, LVM-2, LVM-3, and the actual impedances are as follows:

.2, .4, .5, .62, 1, 1.25, 1.5, 2, 2.5, 3, 3.3, 3.8, 4, 4.5, 5, 5.5, 6, 6.25, 6.6, 7, 7.5, 8, 9, 10, 11, 12, 14, 15, 16, 18, 20, 25, 28, 30, 31, 40, 47, 50, 63, 69, 75.

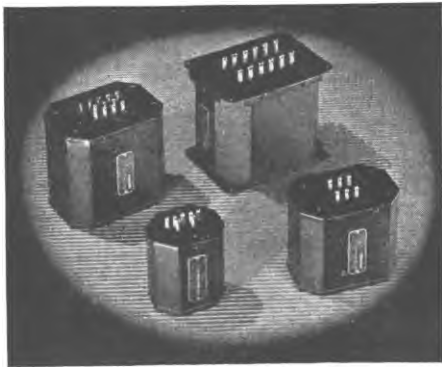
Type No.	Audio Watts	Primary Impedance	Secondary Impedance	Case No.	List Price
LVM-1	15	500 ohms	.2 to 75 ohms	PA-1	\$4.50
LVM-2	40	500 ohms	.2 to 75 ohms	PA-2	7.00
LVM-3	75	500 ohms	.2 to 75 ohms	PA-3	10.00

VARIMATCH LINE AUTOFORMERS

UTC Varimatch Line Autoformers will match one to ten 500 ohm lines or LVM-500 ohm windings to the 500 ohm output of an audio amplifier. The LVM-10 to LVM-14 autoformers have impedances of 500, 250, 167, 125, 100, 83, 71, 62, 50.

Type No.	Audio Watts	Case No.	List Price
LVM-10	15	PA-1	\$4.50
LVM-11	30	PA-2	7.00
LVM-12	60	PA-3	10.00
LVM-13	125	PA-4	18.00
LVM-14	300	CA-1	25.00

UTC PUBLIC ADDRESS AUDIO COMPONENTS



A quality line of popular-priced transformers incorporating conservative design and construction to assure dependability under the most adverse operative and climatic conditions. Uniform drawn cases finished in telephone black enamel with threaded inserts for top or bottom mounting. These units are professional in appearance and suited for continuous commercial service in amplifiers and transmitters. All items are poured with special moisture-proof sealing compound in addition to vacuum impregnation of coil structures. Items in same case size have approximately the same weights, as noted below.

PA-132, PA-134, 135 and 136 are of the hum-bucking type to assure low hum pick-up. All audio components are linear, $\pm 1\frac{1}{2}$ DB from 60 to 8,500 cycles. 200 ohm windings on input transformers are balanced and may be used for 250 ohm circuits.

VARITONE UNITS

The UTC VARITONE is a revolutionary audio device incorporating a transformer and frequency response corrective network. Using the VARITONE, tone correction can be effected for defects in acoustic conditions or overall audio response from microphones, pickups, loud speakers, etc. It is also possible to produce new tonal effects from phonograph recordings or radio reception, bringing back notes which would be practically lost otherwise. Due to the high equalization obtainable, an additional stage of amplification is sometimes necessary if the equalizer is to be used at maximum setting. The VT-1 and VT-2 require an external 50,000 ohm potentiometer as the control device.

Case	OVERALL DIM., IN.			Mtg. Dim.		Weight Lbs.
	L	W	H	L	W	
PA-1	2½	3	3	1½	...	2
PA-2	3¼	4½	4½	1¾	3¼	5
PA-3	3¾	4¾	4¾	1¾	3¾	10
PA-4	6	4¾	6	3¼	5¼	18
CA-1	7¾	9	5½	...	...	28
CA-2	11	11	9	...	...	83

INPUT TO GRID TRANSFORMERS

PA-1 CASE

Type No.	Application	Primary Impedance Ohms	Secondary Impedance Ohms	List Price
PA-131	1 plate to 1 grid	8,000/15,000	90,000 3:1 ratio	
PA-132	1 plate to 2 grids hum-bucking	8,000/15,000	160,000 centertapped 2:1 ratio each side	
PA-133	2 plates to 2 grids	8,000/15,000	30,000 each side 1.75:1 ratio each side	
PA-134	Line to 1 grid hum-bucking	50, 200, 500	100,000	
PA-135	Line to 2 grids hum-bucking	50, 200, 500	150,000 overall	
PA-235	Line to 1 or 2 grids, hum-bucking, multiple alloy shielded for low hum pick-up	50, 200, 500 ohms	80,000 overall	
PA-136	Single plate and low impedance mike or line to 1 or 2 grids. Hum-bucking	8,000/15,000 50, 200, 500	120,000 overall	
PA-233	PP 6C5, 56, similar triodes to AB 45's, 2A3's, 6L6's, etc.	8,000/15,000	8,000 9:1 ratio	
PA-333	PP 6C5, 56, similar triodes to fixed bias 6L6's	8,000/15,000	2,500 5:1 ratio	
PA-433	PP 45, 2A3, similar tubes to fixed bias 2 or 4 6L6's	5,000	1,250 5:1 ratio PA-2 case	

MIXING AND LOW LEVEL OUTPUT TRANSFORMERS

PA-1 CASE

Type No.	Application	Pri. Imp. Ohms	Sec. Imp. Ohms	List Price
PA-137	Mixing	50, 200, 500	50, 200, 500	
PA-140	Triode plate to line	8,000/15,000	50, 200, 500	
PA-141	PP triode plates to line	8,000/15,000	50, 200, 500	

Type No.	Matching	Equalization	List Price
VT-1	Triode plate, low impedance mike or line—to 1 or 2 grids	High end, low end, or both	
VT-2	Connects across triode plate or low impedance mike or line	High end, low end, or both	
VT-4	Connects across triode plate—built in potentiometer	High end, low end, or both	
VT-10	Band pass filter for amateur service removes unnecessary low and high frequencies, reducing QRM, increasing efficiency and intelligibility. Connects in plate circuit of triode.		

OUTPUT TRANSFORMERS

Secondary Impedances 500, 200, 50, 16, 8, 5, 3, 1.5 ohms

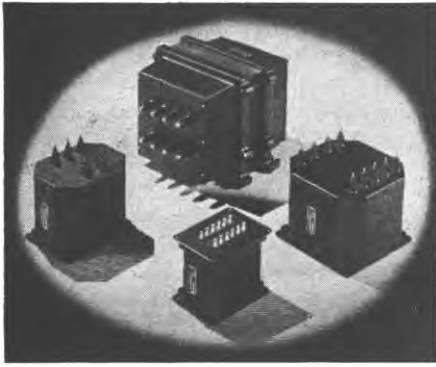
Type No.	Imped. P.P. Ohms	Typical Tubes	Case	List Price
PA-15	8,000	45's, 50's, 6F6 triodes	PA-2	
PA-16	3,000/5,000	2A3's, 6A5G's	PA-2	
PA-19	6,000/10,000	6B5, 6A6, 6F6, 89, 46	PA-2	
PA-710	14,000/20,000	10's, 47's, 2A5 pentodes	PA-2	
PA-2L6	6,500	6L6's self bias	PA-3	
PA-4L6	3,300/3,800	2-6L6's, AB2 or 4-6L6's AB	PA-4	

COMBINED PLATE AND FILAMENT TRANSFORMERS

Primary 115 volts 50/60 cycles. *Tapped for either voltage. † Replaces former transformer types PA-22, PA-425 and PA-426

Type No.	High Voltage	DC. MA.	FIL. 1	FIL. 2	FIL. 3	FIL. 4	Case No. List Price
PA-422	435-365-0-305-435 125-0-125	125 25	5V-3A	5V-2A	6.3 VCT-3A	2.5 VCT-5A	PA-3
PA-428	500-0-500 80-0-80	250 100	5V-3A	5V-2A	6.3 VCT-4A	*6.3 VCT-3A 2.5 VCT-3A	PA-4
PA-429	600-525-0-525-600	250	5V-3A	6.3 VCT-3-A	*7.5 VCT-3A 6.3 VCT-3A		PA-4
PA-431	500-400-0-400-500 80-0-80	500 100	5V-6A	5V-2A	6.3 VCT-5A	6.3 VCT-2A	CA-1

NEW COMMERCIAL TYPE POWER SUPPLY COMPONENTS



The new UTC PA power transformers and chokes have been designed to commercial standards. Temperature rise and insulation requirements are in accordance with the conservative specifications of the A.I.E.E. and Fire Underwriters. Ratings are conservative, for continuous duty, and suitable for all commercial and amateur applications. All items are vacuum impregnated in addition to sealing with special insulating compound. Rugged ceramic bushings are used for high voltage terminals.

These transformers and reactors are designed for temperature rise less than 55 degrees C., and are tested for breakdown on all windings at twice working voltage plus 1,000 volts. In addition, plate transformers are given a surge test at 2½ times normal applied voltage using a 500 cycle supply. In view of the conservative ratings and manufacturing procedure, these units are suitable for use on most types of government and standard commercial communication equipment. However, these same quality features make these units ideal for amateur transmitter equipment and also for quality PA units.

UNIVERSAL BIAS TRANSFORMERS

Primary 115 V. 50/60 cycles. No filament windings.

Type No.	D.C. Voltage	D.C. Ma.	Case No. List Price
PA-316	Tapped for any voltage from 15 to 100 V. within 6%	250	PA-2 \$8.50
PA-318	Tapped for any voltage from 75 to 400 V. within 6%	250	PA-4 15.00

HIGH POWER PLATE TRANSFORMERS

Primaries for 105, 115, 220, 230 volts, 50/60 cycles. For reduced power secondary voltages can be reduced to half by using 220V. Pri. on 110 volts. These transformers may be used on 25 to 43 cycles if 220V. Pri. is used on 110 volts.

Type No.	High Voltage	D.C. Voltage	D.C. MA	Case No.	List Price
PA-300	625-515-0-515-625	500/400	200	PA-3	\$10.00
PA-301	580-530-300-0-300-530-580	475/425/250	500	PA-4	14.00
PA-302	950-750-0-750-950	760/610	325	PA-4	17.00

Type No.	High Voltage	D.C. Voltage	D.C. MA.	L	W	H	Wt. lbs.	List Price
PA-303	1500-1235-400-0-400-1235-1500	1250/1000/300	300/175	8	7½	6½	32	\$25.00
PA-304	1500-1235-0-1235-1500	1250/1000	800	14	11	9½	118	65.00
PA-306	2400-1750-0-1750-2400	2000/1500	300	10	7½	5½	50	35.00
PA-308	2400-1750-0-1750-2400	2000/1500	500	14	11	9½	120	65.00
PA-307	3500-3000-2400-0-2400-3000-3500	3000/2500/2000	300	13	11	9½	110	60.00
PA-308	3500-3000-2400-0-2400-3000-3500	3000/2500/2000	500	15	11	9½	140	85.00
PA-309	3500-3000-2400-0-2400-3000-3500	3000/2500/2000	1000	17	14	11½	210	135.00
PA-310	4600-4050-3500-0-3500-4050-4600	4000/3500/3000	600	15	14	11½	168	105.00
PA-311	1500-1235-0-1235-1500	1250/1000	500	10	7½	5½	50	35.00

VARIPOWER AUTO-FORMERS

Designed for line voltage control, filament voltage control and reduced power operation. Output voltage from 0 to 130 volts, 50/60 cycles. Varipower units permit control of filament voltage at the tube socket to within 2½% of desired value simultaneously with line voltage control and plate voltage control. Can be used to reduce or increase voltages on filament transformers. Taps at 25, 55, 75, 95, 100, 105, 110, 115, 120, 125 and 130 volts permit output voltages from 0 to 130 volts in 5 volt steps.

Type No.	Watts Output	Dimensions	Weight Lbs.	List Price
VA-1	150	4¾ x 3¼ x 3¼	6	\$6.00
VA-2	250	4¾ x 4¼ x 3½	9	7.50
VA-3	500	5½ x 4½ x 4	11	10.00
VA-4	1000	5½ x 6 x 4	19	15.00
VA-5	2000	7 x 6 x 5½	25	20.00

LOW POWER FILTER CHOKES

Type No.	Inductance Henrys	D.C. MA	D.C. res. Ohms	Case No.	List Price
PA-40	10	200	110	PA-2	\$4.60
PA-41	5-25	200	100	PA-2	4.60
PA-44	30	100 max.	375	PA-2	4.00
PA-45	250	15 max.	4500	PA-1	4.60
PA-46C	100	50 ma.	2500	PA-1	4.60

SMOOTHING CHOKES

Tapped for humbucking circuit. Commercial safety factors. Inductance rating at max. DC.

Type No.	Inductance Henrys	D.C. M.A.	D.C. res. Ohms	Case No.	List Price
PA-100	12	150	115	PA-2	\$6.00
PA-102	12	200	105	PA-3	8.00
PA-104	12	300	90	PA-4	12.00
PA-108	10	500	60	CA-1	20.00
PA-15	10	1000	50	CA-1	35.00

SWINGING INPUT CHOKES

Type No.	Inductance Henrys	D.C. M.A.	D.C. res. Ohms	Case No.	List Price
PA-101	5-25	150	115	PA-2	\$6.00
PA-103	5-25	200	105	PA-3	8.00
PA-105	5-25	300	90	PA-4	12.00
PA-109	5-25	500	60	CA-1	20.00
PA-1C	5-25	1000	50	CA-1	35.00

FILAMENT TRANSFORMERS

Primary for 105, 115, 220, 230 volts, 50/60 cycles. These transformers may be used on 25 to 43 cycles if 220 volt primary is used on 110 volts. Secondary voltage is simultaneously reduced to half.

*Two Windings.

Type No.	Sec. Volts C. T.	Sec. Amps.	Working Voltage	Test Voltage	Case No.	List Price
PA-34	2½	10	2500	6000	PA-2	\$7.60
PA-120	2½	10	5000	11000	PA-3	9.00
PA-121	5	22	5000	11000	PA-3	14.00
PA-122	7.5/6.3	8	1500	4000	PA-3	11.00
PA-124	10	10	1500	4000	PA-3	12.00
PA-125	14/12/11	10	1500	4000	PA-3	14.00
PA-126	*14/11/10/14/11/10	10/10	1500	4000	PA-4	20.00

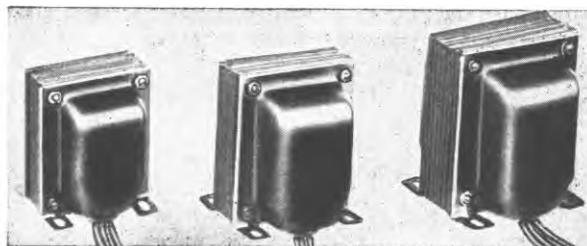
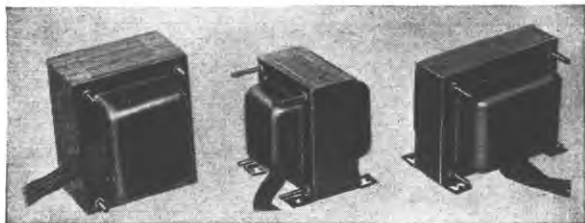


RADIO SET REPLACEMENT TRANSFORMERS

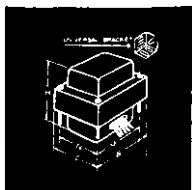


The new UTC replacement type transformers represent the culmination of years of development in this field. All units are vacuum sealed against humidity with special impregnating materials to prevent corrosion and electrolysis. Shells and brackets are finished in attractive high lustre black enamel.

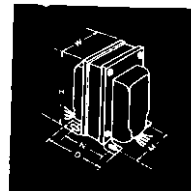
The new UTC shells and universal brackets employed make possible a latitude in mounting dimensions never approached heretofore. Using Varitap coil construction a minimum number of transformers have been developed to cover any requirement in the replacement field.



Through unique construction the five UTC Varitap Duplicate replacement transformers will service as many types of radio receivers as the 15 or 20 units more customarily employed for such service. The universal feet may be used for upright or horizontal mounting, or eliminated for flush mounting.



UTC vertical power transformers are unusually attractive in appearance, having smooth drawn cases finished in high lustre black enamel. The Varitap coil structure assures flexibility of application and permits the three units described to take the place of 5 to 8 units customarily employed for equivalent service.



VARITAP DUPLICATE REPLACEMENT POWER TRANSFORMERS

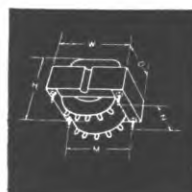
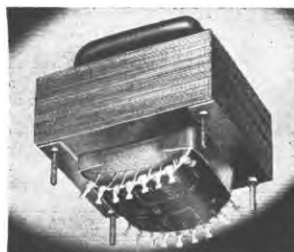
VERTICAL SHIELDED POWER TRANSFORMERS FOR RECEIVERS AND AMPLIFIERS

Type No.	High Voltage	Rect. Fil.	Fil. 1	Fil. 2	Dimensions, In.					Wt. Lb.	List Price
					W	D	H	M	N		
R-1	325-0-325-40MA	5V-2A	6.3 VCT-2A or 2.5-VCT-4A		3	2½	2¼	2¼	2	2½	\$2.50
R-2	350-0-350-70MA	5V-3A	6.3 VCT-2.5A or 2.5-VCT-8A		3½	2½	3	2½	2¼	3¼	3.00
R-3	350-0-350-95MA	5V-3A	6.3 VCT-4.5A or 2.5-VCT-4.5A	2.5 VCT -9A	3½	3½	3½	3½	2½	6½	4.00
R-4	375-0-375-120-MA	5V-4A	6.3 VCT-5A or 2.5-VCT-5A	2.5 VCT -15A	4½	3½	3½	3½	3	6½	5.00
R-5	385-0-385-180-MA	5V-4A	6.3 VCT-4A or 2.5-VCT-6A	6.3 VCT -5A	4½	3½	4½	3½	3	8½	6.00

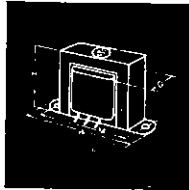
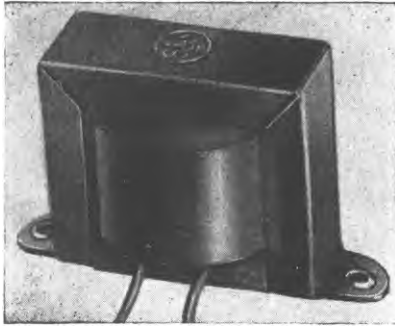
Type No.	High Voltage	Rect. Fil.	Fil. 1	Fil. 2	Dimensions, In.					Wt. Lb.	List Price
					W	D	H	M	N		
R-54	300-0-300-50MA	5V-2A	6.3 VCT-2A or 2.5 VCT-5A		2½	2½	3¼	2	1¼	2½	\$2.75
R-11	350-0-350-75MA	5V-3A	6.3 VCT-3A or 2.5-VCT-3A	2.5 VCT -8A	3	3¼	3½	2¼	2¼	4	\$4.25
R-12	375-0-375-100-MA	5V-3A	6.3 VCT-4A or 2.5-VCT-4A	6.3 VCT -2A or 2.5 VCT -8A	3½	3½	4	2½	2½	6½	5.25
R-13	425-0-425-200-MA	5V-3A	6.3 VCT-5A or 2.5-VCT-5A	6.3 VCT -3A or 2.5 VCT -12A	3½	4½	4½	3	3½	8½	7.50

VARITAP FLUSH TYPE POWER TRANSFORMERS

The UTC flush type transformers are husky units designed for low temperature rise and good regulation. By employing a Varitap universal coil structure, (brought out to sturdy lugs) the five units described take the place of 12 to 15 units normally found in a flush type series.



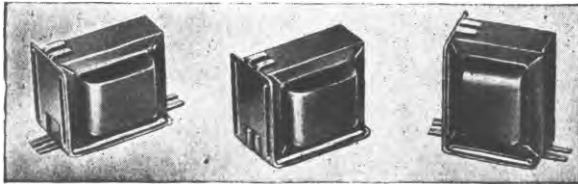
Type No.	High Voltage	Rect. Fil.	Fil. 1	Fil. 2	Dimensions, In.					Wt. Lb.	List Price
					W	D	H	M	N		
R-6	300-0-300-50MA	5V-2A	6.3 VCT-2A or 2.5-VCT-5A		3	2½	3	2½	2	2½	\$2.50
R-7	350-0-350-75MA	5V-3A	6.3 VCT-3A or 2.5-VCT-3A	2.5 VCT -8A	3½	2½	3¼	2½	2¼	3	3.25
R-8	375-0-375-100-MA	5V-3A	6.3 VCT-4A or 2.5 VCT-4A	2.5 VCT -10A	3½	3½	3½	3½	2½	5½	4.25
R-9	400-0-400-125-MA	5V-3A	6.3 VCT-4A or 2.5-VCT-4A	6.3 VCT -2A or 2.5 VCT -10A	4½	3½	4	3½	3	6½	5.50
R-10	425-0-425-200-MA	5V-3A	6.3 VCT-5A or 2.5-VCT-5A	6.3 VCT -3A or 2.5 VCT -12A	4½	3½	4½	3½	3	8½	6.50



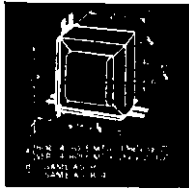
UTC filter chokes are conservatively designed and rated. Standard black enamel mounting channels are employed. Coils are completely sealed against adverse humidity conditions.

FILTER AND AUDIO CHOKES

Type No.	Induct. Hys.	Current	Resistance Ohms	Dimensions, Ins.				Wgt. Lbs.	List Price
				W	D	H	M		
R-55	10	35MA	300	2 1/2	1 3/8	1 3/8	2 3/8	1/2	\$.75
R-14	12	40MA	250	2 3/4	1 3/8	1 11/16	2 3/8	3/4	.90
R-15	15	30MA	450	2 7/8	1 3/8	1 11/16	2 3/8	3/4	.90
R-16	20	30MA	600	2 7/8	1 3/8	1 11/16	2 3/8	3/4	1.10
R-17	25	30MA	850	3 1/8	1 3/8	2	2 7/8	1	1.20
R-18	10	75MA	250	3 1/8	1 3/8	2	2 7/8	1	1.20
R-19	15	100MA	450	3 3/8	1 3/8	2 1/8	3 1/4	1 1/2	1.75
R-20	8	160MA	100	4 3/8	2	2 3/8	3 3/8	2 1/2	2.00
R-21	5/25	160MA	100	4 3/8	2	2 3/8	3 3/8	2 1/2	2.00
R-22	500	5MA	4000	3 3/8	1 3/8	2	2 7/8	1	1.75



The Varitap Duplicate audio units represent the acme in replacement transformer development. The units are extremely attractive, the double shells and universal mounting brackets being finished in high lustre black enamel. The figure A units use the new UTC universal bracket. This bracket makes possible four hole horizontal or vertical mounting and two hole, channel type, horizontal or vertical mounting. The coils of these units, in addition to efficient design and mechanical shielding, are vacuum impregnated and completely sealed with a special compound to assure complete protection against adverse climatic conditions.



VARITAP DUPLICATE AUDIO TRANSFORMERS AND FILTER CHOKES

(Completely Shielded Units, Universal Mfg.)

Type No.	Application	Description	Fig.	Wgt. Lbs.	List Price
R-23	1 plate* to 1 grid	3 1/2:1 ratio	A	1	\$1.75
R-24	1 plate* to 2 grids	2:1 ratio	A	1	1.85
R-25	2 plates* to 2 grids	1.5:1 stepup for class A triodes 1.5:1 stepdown for 6L6's, 2A3's, 2A5's, etc.	A	1 1/4	2.00
R-26	Driver, 1 plate to 2 grids	Single 42, 2A5, 6F6, 45, 46 to AB 6L6's, 42's, 2A5's, 6F6's, 46's	A	1 1/4	2.00
R-27	15 watt Universal Output	All tubes up to 15 watts to any voice coil from .1 to 30 ohms	A	1 1/4	1.75
R-28	35 watt Universal Output	All tubes up to 35 watts to any voice coil from .1 to 30 ohms	B	2 1/4	2.50
R-29	Mike to grid	Single or double button mike or line to 1 grid	A	1 1/4	1.85
R-30	Filter choke	13 Hys—250 MA—100 ohms	C	7	5.00
R-31	Filter choke	10 Hys—80 MA—250 ohms	A	2 1/2	1.50
R-32	Filter choke	10 Hys—150 MA—100 ohms	B	2 1/2	2.25

*Will match tubes like 27, 37, 56, 6C6 triodes, 6C5. Can be used with high mu triodes with loss in low frequencies.

UTC channel frame TROPICAL WETPROOF audios are excellently designed. In addition to good frequency range, coils are vacuum-pressure treated followed by the UTC MOULD SEAL process of WET PROOFING to prevent moisture absorption.

CHANNEL FRAME AUDIO TRANSFORMERS

Type No.	Application	Description	Dimen., Ins.				Wt. Lbs.	List Price
			W	D	H	M		
R-33	1 plate* to 1 grid	4:1 ratio	2 1/2	1 3/8	1 3/8	2 3/8	3/4	\$1.20
R-34	1 plate* to 2 grids	2:1 ratio	2 3/4	1 3/8	1 3/8	2 3/8	3/4	1.25
R-35	Mike to 1 grid	17:1 ratio	2 3/4	1 3/8	1 3/8	2 3/8	3/4	1.50
R-53	Plate and mike to grid	3:1 and 17:1 ratio	2 3/4	1 3/8	1 3/8	2 3/8	3/4	1.55
R-56	1 plate to 2 grids	2:1 ratio	3 3/8	1 3/8	2	2 7/8	1	1.50
R-57	1 plate to 2 grids	2 1/2:1 ratio	4 1/4	2	2 3/8	3 1/8	2 1/2	2.50
R-36	Driver	30, 49, etc. to class B 19, 49, 79, 89 grids	2 3/4	1 3/8	1 3/8	2 3/8	3/4	1.50
R-37	R.F. Output	Class B 19, 49, 79, 89 plates to 3500 and 5,000 ohms	2 3/4	1 3/8	1 3/8	2 3/8	3/4	1.50
R-58	5 watt Universal output	Any single tube to any voice coil .1 to 30 ohms	2 3/4	1 3/8	1 3/8	2 3/8	3/4	1.10
R-38A	6 watt Universal	Any tubes up to 6 watts to any voice coil .1 to 30 ohms	2 3/8	1 3/8	1 3/8	2 3/8	3/4	1.25
R-59	10 watt Universal	Any tubes up to 10 watts to any voice coil .1 to 30 ohms	2 3/4	1 3/8	1 3/8	2 3/8	1	1.40
R-60	15 watt Universal	Any tubes up to 15 watts to any voice coil .1 to 30 ohms	3 3/8	1 3/8	2	2 7/8	1 1/2	1.50
R-39	10 watt line Matching Transformer	250, 500, 1,500 ohms to 2, 8, 15 ohms	2 3/8	1 3/8	1 3/8	2 3/8	3/4	1.50
R-40	25 watt line Matching Transformer	250, 500, 1,500 ohms to 2, 8, 15 ohms	4 3/8	2 3/8	2 3/8	3 3/8	2 1/2	2.50

*Will match tubes like 27, 37, 56, 6C6 triodes, 6C5. Can be used with high mu triodes with loss in low frequencies.

CHANNEL FRAME FILAMENT TRANSFORMERS

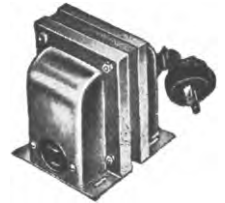
Pr. 115 V.—50/60 Cycles

Type No.	Secondary	Dimensions, Inches				List Price
		W	D	H	M	
FT-1	2.5 V. C. T.-3A	2 3/8	1 3/8	1 11/16	2 3/8	\$1.25
FT-2	6.3 V. C. T.-1.2A	2 3/8	1 3/8	1 11/16	2 3/8	1.25
FT-3	2.5 V. C. T.-6A	3 3/8	1 3/8	2	2 3/8	1.50
FT-4	6.3 V. C. T.-2.5A	3 3/8	1 3/8	2	2 3/8	1.75
FT-5	2.5 V. C. T.-10A	3 3/8	1 3/8	2 3/8	3 3/8	1.75
FT-6	5 V. C. T.-3A	3 3/8	1 3/8	2 3/8	3 3/8	1.75
FT-7	7.5 V. C. T.-3A	3 3/8	1 3/8	2 3/8	3 3/8	1.75

STEP DOWN AUTO-TRANSFORMERS

220-240 to 110-120 Volts—50/60 Cycles

Type No.	Application	Wgt. Lbs.	List Price
R-41	85 watt capacity	4	\$4.50
R-42	125 watt capacity	5	5.00
R-43	175 watt capacity	5 1/2	6.00
R-44	250 watt capacity	6 1/2	7.00
R-45	500 watt capacity	13	14.00
R-46	1000 watts, no cord	26	25.00



EXPORT VOLTAGE ADAPTERS

Complete with cord and plug and special locking switch providing for line voltages of 105, 115, 125, 135, 150, 210, 230, 250 volts; 42 to 60 cycles. Output voltage 115.

Type No.	Rating	Weight, Lbs.	List Price
R-48	150 watts	5 1/2	\$7.50

LINE VOLTAGE CORRECTORS

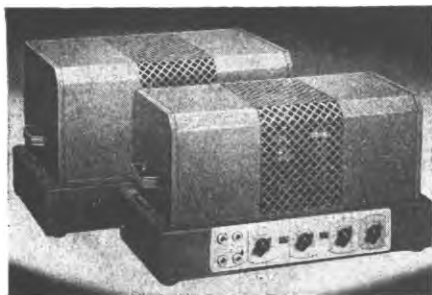
Auto-transformers complete with cord, plug and tap switch. Switch will effect 115 volts plus or minus 2 1/2 volts output for any input voltage from 90 to 135 volts, 50/60 cycles.

Type No.	Rating	Weight, Lbs.	List Price
R-50	100 watts	4	\$6.50
R-51	250 watts	5 1/2	8.00
R-52	1000 watts	18	25.00

NEW BEAM POWER-COMPRESSOR AMPLIFIER KITS



The new improved UTC PA amplifier and modulator kits incorporate every advanced circuit feature desirable for PA and amateur work.



The kits are provided complete with panels, covers, resistors, condensers, sockets, jacks, etc. All components are completely mounted and ready to wire; complete constructional details and diagrams are furnished.

VOLUME LIMITING

Volume limiting in amplifier equipment is ideal for the home and PA application inasmuch as the equipment can be operated at high levels without any fear of blasting on peaks of power. In PA service the changes in level encountered when a speaker moves toward the microphone is minimized by the amplifier compression. In modulator work the limiting action minimizes the tendency for over-modulation due to sudden increase of input signals, thus permitting a higher gain control setting **doubling the effective transmitter power.**

COMPONENTS

The new UTC PA amplifier kits are unusually trim in appearance, employing blackchrome etched panels contrasting with the gray commercial wrinkle finish of the chassis and perforated metal cover.

All kits are furnished with four input jacks providing for dual input (high or low gain) to both channels of the mixer. The mixing system is completely cross-talk proof. The unique UTC VARITONE equalizer is incorporated to equalize high frequencies or low frequencies, as desired. VARIMATCH output transformers are employed in kits for PA, modulator and driver service.

The output impedances on PA kits are 500, 200, 15, 8, 5, 3, and 1½ ohms.

TECHNICAL CHARACTERISTICS

P-1A

PA kit, self bias, 30 watts output, audio and power units on separate chassis for rack or cabinet mounting. Four jack, dual channel, high impedance input, two high gain (120DB), two low gain (80DB). VARITONE equalizer and **compression controls.** Output impedances for line and voice coil as above. Weight, 60 pounds.

List price..... \$87.50

P-1M

Modulator amplifier kit, same as above, but for modulation purposes. VARIMATCH output has the following impedances: 200, 405, 1180, 2350, 2400, 3000, 4000, 4670, 4750, 5660, 7000, 9100, 9500. Weight 60 pounds.

List price..... \$87.50

Tubes required for P-1A or P-1M kits are: two 6J7, one 6N7, two 6C5, two 6L6, one 83, one 6H6.

P-2A

PA kit, fixed bias, 50 watts output, audio and power units on separate chassis for rack and cabinet mounting. Four jack, dual channel, high impedance input, two high gain (120DB), two low gain (80DB). VARITONE equalizer and **compression controls.** Has output for line or voice coils, as specified. Weight, 64 pounds.

List price..... \$97.50

P-2M

Modulator kit, same as above, but has VARIMATCH output having impedances of 360, 660, 2050, 3740, 4100, 7000, 7500, 8200, 12000, 12600, 15000, 16400, 21500, 29800 on the 3800 ohm plate to plate terminals. Also has 237, 1300, 1750, 2700, 3270, 5200 ohms on the 4000 ohm plate to plate input terminals. Weight, 64 pounds.

List price..... \$97.50

Tubes required for the P-2A or P-2M kits: two 6J7, one 6N7, two 6C5, two 6L6, one 83, one 80, one 6H6.

P-3A

PA kit, fixed bias, 100 watts output. Audio and power on separate chassis for rack or cabinet mounting. Four jack, dual channel, high impedance input, two high gain (120DB), two low gain (80DB). VARITONE equalizer and **compression controls.** Line and voice coil output. Weight, 110 pounds.

List price..... \$142.50

P-3M

Same as P-3A, but has VARIMATCH output with impedances of 270, 500, 1440, 2760, 2900, 3700, 4900, 5650, 5800, 6900, 8400, 11000, 12000. Weight, 110 pounds.

List price..... \$142.50

Tubes required for the P-3A and P-3M kit: two 6J7, one 6N7, two 6C5, four 6L6, two 6F6, three 83, one 5Z3, one 6H6.

P-4D

10 watt compressor driver amplifier, self bias. 10 watts output, sufficient to drive any class AB, or class B amplifier of 100 watt to 250 watt rating. The ideal driver, incorporating: compression, low reflected drive impedance, multi-channel input, high gain, and VARITONE equalizer. One chassis. Four jack, dual channel, high impedance input, two high gain (117DB), two low gain (77DB). VARITONE equalizer and **compression controls.** VARIMATCH driver transformer incorporated as output unit. Weight, 16 pounds.

List price..... \$65.00

P-4A

Ideal 10 watt home amplifier. Same as above, but with PA VARIMATCH output transformer to 500, 15, 8, 5, 3, 1½ ohms. Weight, 36 pounds.

List price..... \$65.00

Tubes required for the P-4D and P-4A kit: two 6J7, one 6N7, one 6C5, two 2A3, one 5Z3, one 6H6.

P-5A

PA kit, self bias, 15 watts output. One chassis. Four jack, dual channel, high impedance input: two high gain (120DB), two low gain (80DB). VARITONE equalizer and **compression controls.** Output impedance for line and voice coils, as specified. Weight, 36 pounds.

List price..... \$62.50

P-5M

Modulator kit, same as P-5A, but with VARIMATCH output having impedances of 270, 500, 1440, 2760, 2900, 3700, 4900, 5650, 5800, 6900, 8400, 11000, 12000. Weight, 36 pounds.

List price..... \$62.50

Tubes required for P-5A or P-5M kit: two 6J7, one 6N7, one 6C5, two 6V6, one 83, one 6H6.

P-7A

AC operated pre-amplifier kit designed especially for amateurs and PA service. Very efficient filtering assuring freedom from hum. Has a gain of 70DB, and a two channel high impedance, high level mixer with jack input for each channel. Output impedances are 50, 200, and 500 ohms. Weight, 15 pounds.

List price..... \$30.00

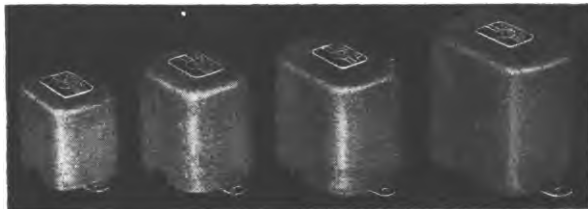
Tubes required for the P-7A: two 6J7, one 6N7, one 6X5.



SPECIAL SERIES AUDIO TRANSFORMERS

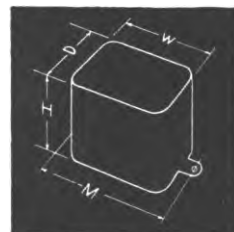


UTC Special Series transformers represent unprecedented value. These items are specifically designed for amateur and popular-priced PA service. For commercial equipment the PA or LS series of units are recommended. The Special Series units are finished in a rich, commercial type gray crinkle enamel. Small units are poured with humidity-proof sealing compound in modern drawn cases. A recessed terminal strip is provided permitting above chassis or breadboard wiring in addition to standard chassis type wiring. The universal windings provided on driver, matching and output transformers assure a maximum of flexibility. Modulator output units will carry the DC current in the class C stage and will match practically any audio tubes to any RF load within the power rating of the transformer. Large components are housed in formed cases with top or bottom mounting and louvers for good ventilation.



CASE SIZES

Type No.	H	W	D	M	Weight Lbs.
G-1	1 7/8	2	1 3/4	2 1/8	1
G-2	2 5/16	2 3/4	1 9/16	2 7/8	1 1/2
G-3	2 1/2	2 3/4	2 1/8	3 1/4	2
G-4	2 15/16	3 1/8	2 5/16	3 5/8	3



CLASS A INPUT TRANSFORMERS

Type No.	Application	Ratio	Case No.	Net Price
S-1	1 plate* to 1 grid	3 1/2:1	G-2	\$1.35
S-2	1 plate* to 2 grids	2:1	G-2	1.50
S-3	1 plate* to 1 or 2 grids compact type	4:1 2:1 P.P.	G-1	1.20
S-4	1 plate* to 2 grids wide range response	1:1	G-3	2.10
S-5	Single or double button mike or line to 1 grid hum-bucking type	16:1	G-2	1.80
S-6	Single or double button mike or line to 1 grid, compact type	16:1	G-1	1.20
S-7	Single plate* and carbon mike to one or two grids	3:1 16:1	G-2	2.10

*Will match tubes like 56, 6C5, 6C6 triode, 77 triode, 37, etc. Can be used with high mu triodes with loss in low frequencies.

UNIVERSAL DRIVER TRANSFORMERS

Type No.	Primary	Typical Output Tubes	Case No.	Net Price
S-8	All single tubes like: 6C5, 30, 49, 53, 79, 89, 6A6, 45, 46, 2A3	19, 30, 49, 79, 89, 2A3, 45, 46, 6L6, 42, 59	G-3	\$1.85
S-9	P. P. tubes like: 45, 59, 2A3, 6B5, 6L6	46, 4-46, 841, 210, 801, RK-18, 800, 203A, 838, 805, 50T, 830B	G-4	2.25
S-10	P. P. 56, 6C5, etc.	AR 45, 42, 2A3, 6L6	G-3	2.10
S-73	500 or 200 ohm line to all watts	Class B grids up to 400	G-4	2.25

MATCHING TRANSFORMERS

Type No.	Application	Pri. Ohms	Sec. Ohms	Case No.	Net Price
S-11	Single 56, 6C6 triode, 6C5 or similar tube to line.	10,000	200/500	G-2	\$1.80
S-12	Line to speaker 15 watts	500, 2000, 4000	2, 4, 8, 15	G-2	2.10
S-13	Line to speaker 30 watts	500, 2000, 4000	2, 4, 8, 15	G-4	2.70

UNIVERSAL OUTPUT TRANSFORMERS TO LINE AND VOICE COIL

Type No.	Tubes and Pri. Ohms	Sec. Ohms	Power	Case No.	Net Price
S-14	Single tubes: 2500 ohms for 2A3, 6A3, 6A5 G 6B4 G, 6L6, 6Y6, 25L6 4,000 ohms for 2A5, 6F6 triode, 12A5, 25A5, 43, 45, 50, 71A 7,000 ohms for 2A5, 6F6, 6K6, 20, 31, 33, 47 10,000 ohms for 6G6, 38, 41	2, 8, 15, 500	10 W	G-2	\$1.95
S-15	P. P. tubes: 4,000 ohms for 25L6, 6Y6G 5,000 ohms for 2A3, 6A3, 6A5G, 6B4G, 45 10,000 ohms for 19, 7J6G, 30, 49, 89, 6Z7G, 6AC5G, 53, 6A6, 6N6, 6N7, 6B5	2, 8, 15, 500	12 W	G-2	2.10
S-16	3,000 ohms for 2A3, 6A3, 6A5G, 6B4G, AB 6,000-6,600 ohms for 2A5-6F6- 42 triodes AB, 46, 59, 6L6 10,000 ohms for 6B5, 6V6, 2A5-6F6-42 pentodes AB	2, 8, 15, 500	30 W	G-4	2.85
S-17	3,300 ohms for 4 6L6's, 4-46's 3,800 ohms for 2 6L6's, AB2 5,000 ohms for 1608, 809	2, 8, 15, 500	55 W	G-5	3.90

COMBINED PLATE AND FILAMENT TRANSFORMERS

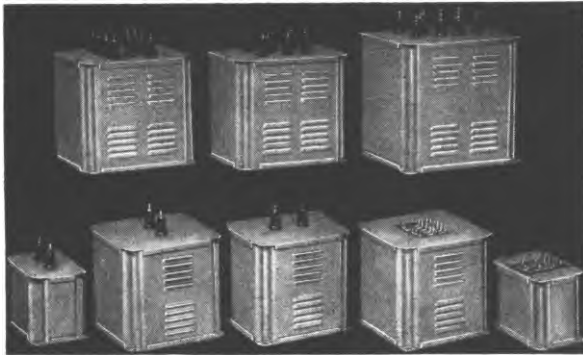
Primary 115 V. ---50/60 Cycles

Type No.	High Voltage	D.C. Voltages*	Rectifier Fil.	Fil. No. 1	Fil. No. 2	Case No.	Net Price
S-39	490-400-0-400-490 175 Ma.	400/310	5V.-3A.	2.5 V. C. T. 6A	6.3 V. C. T. 4A	G-6	\$3.30
S-40	525-425-0-425-525 250 Ma.	400/310	5V.-3A.	6.3 V.C.T.- 3A	6.3 V.C.T.- 3A	G-7	3.80
S-41	600-0-600 200 Ma.	475	5V.-3A.	7.5V. tapped 6.3V-3A	6.3 V.C.T.- 2A	G-7	3.60
S-42	600-525-0-525-600 300 Ma.	480/400	5V. 3A.	7.5V. tapped 6.3V.-3A	6.3 V.C.T.- 3A	G-8	5.10
S-43	525-0-525 450 Ma. 40-0-40, 200 Ma.	400	5V.-3A 5V.-6A	6.3 V.C.T.- 2A	6.3 V.C.T.- 5A	G-9	7.20

*Based on two section filter, choke input.

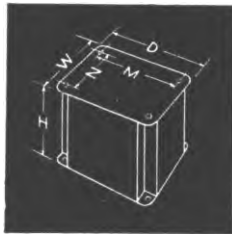
SPECIAL SERIES POWER EQUIPMENT

UTC Special Series power supply components are designed specifically for amateur and popular-priced PA service. The ratings are based on such applications and recommended for intermittent service. For commercial applications, PA or LS grade components should be employed. Tapped coil structures on power and bias supply transformers afford maximum flexibility, permitting a given transformer to be used with many circuits and types of tubes. Large stand-off insulators and conservative coil insulation are provided on all high voltage units.



CASE SIZES

Type	H	W	D	M	N	Wt. Lbs.
G-5	3 $\frac{1}{8}$	3 $\frac{1}{4}$	4 $\frac{1}{16}$	3 $\frac{1}{8}$	2 $\frac{1}{16}$	4 $\frac{1}{2}$
G-6	4 $\frac{1}{8}$	3 $\frac{3}{4}$	5 $\frac{1}{2}$	4 $\frac{13}{16}$	3 $\frac{3}{8}$	8
G-7	5 $\frac{1}{8}$	4 $\frac{1}{16}$	5 $\frac{1}{8}$	4 $\frac{27}{32}$	3 $\frac{25}{32}$	9
G-8	5 $\frac{1}{8}$	5 $\frac{1}{2}$	5 $\frac{1}{2}$	4 $\frac{25}{32}$	4 $\frac{1}{4}$	13
G-9	6 $\frac{1}{8}$	5 $\frac{1}{16}$	6 $\frac{13}{16}$	6 $\frac{1}{2}$	4 $\frac{13}{16}$	18
G-10	6 $\frac{1}{8}$	6 $\frac{1}{16}$	6 $\frac{11}{16}$	5 $\frac{13}{16}$	5 $\frac{13}{16}$	24
G-11	7 $\frac{1}{8}$	6 $\frac{1}{16}$	7 $\frac{3}{8}$	6 $\frac{11}{16}$	5 $\frac{29}{32}$	31



FILTER, SWINGING, AND AUDIO CHOKES

Type No.	Service	Inductance	Current	Resistance	Case No.	Net Price
S-23	Audio	500 Hy.	5 Ma.	4,500 ohms	G-2	\$1.35
S-24	P.P. Choke	500 Hy. C.T.	3 Ma.	4,000 ohms	G-2	1.50
S-25	Filter	30 Hy.	30 Ma.	800 ohms	G-2	1.20
S-26	Filter	15 Hy.	60 Ma.	230 ohms	G-2	1.20
S-27	Filter	30 Hy.	75 Ma.	350 ohms	G-4	1.65
S-28	Filter	20 Hy.	100 Ma.	350 ohms	G-4	1.65
S-29	Filter	6 Hy.	175 Ma.	95 ohms	G-4	1.65
S-30	Swinging	5/25 Hy.	175 Ma.	95 ohms	G-4	1.65
S-31	Filter	15 Hy.	225 Ma.	120 ohms	G-5	2.10
S-32	Swinging	5/25 Hy.	225 Ma.	120 ohms	G-5	2.10
S-33	Filter	15 Hy.	300 Ma.	90 ohms	G-7	3.00
S-34	Swinging	5/25 Hy.	300 Ma.	90 ohms	G-7	3.00
S-35	Filter	15 Hy.	400 Ma.	85 ohms	G-8	3.90
S-36	Swinging	5/25 Hy.	400 Ma.	85 ohms	G-8	3.90
S-37	Filter	15 Hy.	550 Ma.	60 ohms	G-9	5.40
S-38	Swinging	5/25 Hy.	550 Ma.	60 ohms	G-9	5.40

UNIVERSAL BIAS TRANSFORMERS

Primary 115 V.—50/60 Cycles No Filament Windings

Type No.	Application	D.C. Current	Case No.	Net Price
S-51	Will supply any bias voltage from 15 to 100 volts D.C. within approximately 6% of desired value.	200 Ma.	G-5	\$3.00
S-52	Will supply any bias voltage from 75 to 400 volts D.C. within approximately 6% of desired value.	300 Ma.	G-7	4.20

UNIVERSAL OUTPUT TRANSFORMERS

Any modulator tubes to any RF load.

Type No.	Audio Power	Case No.	Net Price
S-18	12 watts	G-3	\$2.10
S-19	30 watts	G-4	2.85
S-20	55 watts	G-5	3.90
S-21	110 watts	G-7	6.00
S-22	250 watts	G-9	8.40

PLATE TRANSFORMERS

Primary 115 V.—50/60 Cycles

Type No.	High Voltage	D.C. Voltages*	D.C. Current	Case No.	Net Price
S-44	575-525-0-525-575	470/430	500 Ma.	G-9	\$5.70
S-45	900-750-0-750-900	750/620	200 Ma.	G-8	3.90
S-46	1000-750-0-750-1000	825/600	300 Ma.	G-9	5.70
S-74	1175-500-0-500-1175 Duplex rectifier	1000 400	†150 MA ‡150 MA	G-10	7.20
S-47	1500-1250-1000-0-1000-1250-1500	1275/1050/825	300 Ma.	G-10	7.20
S-48	1500-1250-1000-0-1000-1250-1500	1300/1075/850	500 Ma.	G-11	11.70
S-49	2100-1800-1500-0-1500-1800-2100	1815/1540/1275	300 Ma.	G-11	10.80
S-50	3000-2500-0-2500-3000	2625/2175	300 Ma.	G-11	12.90

*Based on two section filter for 200 Ma. and 300 Ma. units, single section filter for 500 Ma. units, both choke input.

†Note: Using a bridge rectifier circuit D.C. Voltages shown are doubled but available D.C. current reduced to half. S-49 and S-50 are not suitable for bridge rectifiers.

‡200 MA If used alone.

‡ 300 MA If used alone.

SINGLE SECONDARY FILAMENT TRANSFORMERS

Primary Tapped 105, 115 Volts—50/60 Cycles

Type No.	Secondary Volts	Secondary Current	Insulation	Case No.	Net Price
S-53	2.5 VCT	10 A.	1500 V.	G-3	\$1.35
S-54	5 VCT	4 A.	2500 V.	G-3	1.35
S-55	6.3 VCT	3 A.	1,500 V.	G-3	1.35
S-56	7.5 VCT	3 A.	1,500 V.	G-3	1.35
S-57	2.5 VCT	10 A.	10,000 V.	G-5	1.80
S-58	2.5 VCT	20 A.	10,000 V.	G-5	2.40
S-59	5 to 5.25 VCT	13 A.	5,000 V.	G-5	2.10
S-60	5 to 5.25 VCT	22 A.	10,000 V.	G-7	4.50
S-61	7.5 VCT tapped 6.3 VCT	8 A.	3,000 V.	G-6	2.10
S-62	10 VCT	10 A.	3,000 V.	G-6	2.40
S-63	14 VCT tapped 12 VCT and 11 VCT	10 A.	5,000 V.	G-7	4.50

MULTIPLE SECONDARY FILAMENT WINDINGS

Primary Tapped 105, 115 Volts—50/60 Cycles

Type No.	Fil. 1	Fil. 2	Fil. 3	Insulation V.	Case No.	Net Price
S-64	2.5 VCT-5A	2.5 VCT-5A	5 VCT-6A	3,000	G-5	\$2.40
S-65	2.5 VCT-5A	5 VCT-4A	6.3 VCT-3A	3,000	G-5	2.40
S-66	2.5 VCT-10A	7.5 VCT-6.5A		3,000	G-5	2.40
S-67	5 VCT-6A	6.3 VCT-5A		3,000	G-5	2.40
S-68	5 VCT-3A	6.3 VCT-4A	7.5 VCT-5A	3,000	G-5	2.70
S-69	6.3 VCT-3A	7.5 VCT-6.5A		3,000	G-5	2.70
S-70	6.3 VCT-5A	6.3 VCT-5A		3,000	G-5	2.70
S-71	2.5 VCT-6A	2.5 VCT-6A	2.5 VCT-12A	10,000	G-7	4.50
S-72	5 VCT-3A	5 VCT-3A	5 VCT-6A	5,000	G-6	3.00



Popular Priced

TRANSMITTER AND AMPLIFIER KITS



S-15A The S-15A audio amplifier is an ideal medium power amplifier for P. A. and modulator service, delivering 15 watts of audio power. The power supply and audio amplifier are combined on one compact chassis. High gain, sufficient for crystal microphone operation, is effected through proper choice of tubes, including 6V6G tubes in the output stage. High impedance dual input is provided for either low or high gain, using standard jacks. A universal output plug is supplied at the back of the unit. A tone control is mounted on the common etched panel which sets off the modern beauty of the slate-gray crinkle chassis. The tubes required are one 6J7, one 6C5, two 6V6G's and one 83. This kit is supplied completely mounted ready to wire, less dust cover and tubes, including all components, accessories, etched plate, etc. Size 17" long x 7" wide x 8" high. Weight 23 pounds.

Net price **\$24.00**

If kit is desired with Special Series universal modulation transformer, use amplifier kit No. S-15M.

Net price **\$24.00**

If kit is desired with 2A3 output tubes and additional stage of amplification, line and voice coil output, use Kit No. S-10A.

Net price **\$25.20**

2A3 kit as above, but universal driver output transformer, use Kit No. S-10D.

Net price **\$25.20**

Tubes for S-10A and S-10D are one 6V7, one 6F8G, two 2A3's, one 83.

Dust cover for above amplifiers, type S-15D. Net price **\$1.50**



SX-25 The UTC SX-25 kit is an ideal unit for the beginner and also as a stand-by transmitter for the experienced amateur. Its low price represents unprecedented value. With a good antenna this transmitter has made contacts over a range of several thousand miles.

The circuit of the SX-25 is very simple, being a straight crystal controlled oscillator of high power output (25 watts CW) and stability. It is constructed with a self-contained power supply and antenna tuning condenser. Keying is accomplished in the cathode circuit of the oscillator, thus permitting break-in operation. The SX-25 will operate on all amateur bands from 160 to 10 meters. It is supplied completely mounted, ready to wire, less 2"-200MA meter, tubes, and crystal. The kit includes the cabinet and all components and accessories, such as resistors, condensers, coil form, sockets, etched plate line cord, etc. The tubes required are one 6L6G and one 83. Size 15" long x 7½" wide x 10½" high. Weight 20½ pounds.

Amateur net price **\$18.00**



S-25A The S-25A audio amplifier has been designed specifically for the high power P. A. and modulator field. This unit employs 6L6 tubes in the output stage to obtain 25 watts of undistorted power. The circuit is simple but highly efficient, effecting sufficient gain in three stages to operate from crystal or similar microphones. The tone and volume controls are mounted with the dual high impedance, high and low gain input jacks on one etched panel. A universal output plug is provided on the back of the chassis. The power supply is unusually rugged and employs a two-section filter for optimum regulation and hum reduction. The kit is normally supplied with universal voice coil output impedances. The tubes required are one 6J7, one 6C5, two 6L6's and one 83. The S-25A kit is supplied completely mounted, ready to wire, less tubes, including all components, accessories, dust cover, etched plate, etc. Size 17" long x 7" wide x 9¼" high. Weight 32 pounds.

Net price **\$30.00**

If kit is desired with Special Series universal modulation transformer use amplifier kit No. S-25

Net price **\$30.00**



SX-80 The SX-80 transmitter kit is a complete 80 watt C.W. transmitter of modern design. Operation on all bands is obtained through the use of plug-in coils. Keying is accomplished in the oscillator cathode circuit to permit break-in operation. A rugged power supply using choke input filter is incorporated on the same chassis.

The output of the SX-80 consists of a link circuit terminated at two Isolantite feed-through insulators at the rear of the chassis, and may be connected to a twisted pair feeder or to an external antenna coupling system.

The SX-80 combines modern appearance with simplicity of control and flexibility of operation. It may be used either as a complete 80 watt C.W. unit or as an exciter to drive a high power final stage. It lends itself to the possibility of being incorporated in future equipment should higher power be desired. The tubes required are three 6L6G's and one 83. The kit includes the cabinet and all components and accessories such as resistors, condensers, sockets, coil forms, etched plate, line cord, etc.

This unit is supplied completely mounted, ready to wire, less 2"-100MA and 200MA meters, tubes, and crystal. Size 18" long x 13" wide x 12½" high.

Weight 46 pounds. Amateur net price **\$37.50**

SX-82A Antenna matching kit, similar to SX-80 and SX-200 in appearance will handle any transmitter up to 300 watts input. Complete including cabinet and accessories less 2.5A—2" meter. Amateur net price **\$19.60**



S-100 The S-100 audio amplifier is an ideal inexpensive unit for amateur use. Four highly efficient stages are employed, permitting crystal, microphone input and 100 watt undistorted output. Four 6L6 tubes are employed in the output stage for maximum tube economy and minimum plate potential. Fixed bias is employed on the output stage, permitting peak power handling ability appreciably over the normal rating. A modern etched panel sets off the attractive appearance of the gray crinkle cabinet, which is similar to that of the SX-80 and SX-200 transmitter kits. Tone and volume controls are provided. High impedance, high or low gain, dual input is arranged using standard jacks. A Special Series universal modulation transformer is employed to effect maximum flexibility for matching any RF stage. Tubes required are one 6J7, one 6C5, two 6F6's, four 6L6's, three 83's. The kit is supplied completely mounted, ready to wire, less tubes and dust cover, including all components, accessories, etched plate, etc. Size, less cabinet, 17" long x 12" wide x 9¼" high; with cabinet, 18" long x 13" wide x 12½" high. Weight 59 pounds. Net price **\$52.50**

If this kit is desired with a P. A. output transformer for universal voice coil impedances, order by No. S-100PA. Net price **\$55.00**

Cabinet for above to match SX-80 and SX-200 in appearance—Type S-100C. Net price **\$3.75**



SX-200 The UTC SX-200 transmitter kit is a high power output stage designed to be used in conjunction with the SX-80 to form a complete 300 watt C. W. transmitter. When supplemented by the UTC type S-100 modulator amplifier, it becomes a 200 watt phone transmitter. The SX-200 is of modern design, employing four type 809 tubes in a push pull parallel circuit, thus effecting high power at moderate plate potentials and permitting operation at lower power by eliminating one pair of tubes, if so desired. The SX-200 may be used as a power amplifier stage following any exciter which has a power output of 40 watts. It will operate at all frequencies up to 30 megacycles. A rugged, highly efficient power supply is combined on the same chassis with the RF amplifier. Single section high efficiency choke input filtering is employed to obtain good regulation. The tubes required are two 866's or 866A's and four 809's. This unit is supplied completely mounted, ready to wire, less 2"-500MA meter and tubes, including all components, accessories, and cabinet. Size 18" long x 13" wide x 12½" high. Weight 66 lbs. Amateur net price **\$43.50**

HALLORSON Replacement Transformers

POWER TRANSFORMERS

Cat. No.	Plate Voltage C.T.	5 V. Fil.	2.5 V. Fil.	6.3 V. Fil.	Tube Combinations	Mtg Type	Dimensions H. W. D.	Mounting Centers	Wtg. Lbs.	Price
51	700 V.—70 M.A.	3 A.	10 A., C.T.		1-40, 47, 2A5; 5-24, 27, or 9-56, 57	S T	4" x3 1/2" x3 1/2" 3 1/2" x3 3/4" x3 1/2"	2 1/2" x2 1/2" Universal	5 4 1/2	\$4.50 4.00
52	700 V.—110 M.A.	3 A.	(1) 3.5 A., C.T. (2) 3.5 A., C.T. (3) 9 A., C.T.		2-45, 47, 2A5 2-45, 47, 2A5 5-24, 27, or 9-56, 57	S T U	4 1/2" x4" x4" 3 1/2" x4 1/2" x3 3/4" 4" x4 1/2" x3 3/4"	3" x2 1/2" Universal 3 3/4" x2 1/2"	8 3/4 7 3/4 7 3/4	5.50 5.00 4.75
53	700 V.—110 M.A.	3 A.	(1) 3.5 A., C.T. (2) 12.25 A., C.T.		2-45, 47, 2A5 7-24, 27 or 12-56, 57	S T	4 3/4" x4" x3 1/2" 7-24, 27 or 12-56, 57	3" x2 1/2" Universal	9 8 1/2	6.25 5.25
56	700 V.—90 M.A.	3 A.	(1) 3.5 A., C.T. (2) 8.75 A., C.T.		2-45, 47, 2A5 0-24, 24, or 9-56, 57	S T	4 3/4" x4" x3 1/2" 3 3/4" x4 1/2" x3 3/4"	3" x2 1/2" Universal	7 1/4 6 1/4	4.75 4.25
57	600 V.—80 M.A.	(1) 3 A. (2) 1/2 A.	10.5 A., C.T.		6-24, 27, or 10-56, 57	S T	4" x3 1/2" x3 3/4" 3 1/2" x3 3/4" x3 1/2"	2 1/2" x2 1/2" Universal	5 4 1/2	4.80 4.25
47	650 V.—40 M.A.	2 A.	3.75 A., C.T.		1-2A5; 2-57, 58	M L	1 1/2" x3" x2 1/2" 2 1/2" x3" x2 1/2"	2 1/2" x2" Universal	2 1/4 2 1/4	1.95 2.50
48	650 V.—40 M.A.	3 A.	(1) 1.75 A., C.T. (2) 3.5 A.		1-47, 2A5 2-24, 27, or 3-56, 57	M L	2 1/2" x3 1/2" x2 1/2" 2 1/2" x3 3/4" x2 1/2"	2 1/2" x2 1/2" Universal	3 1/4 3 1/2	2.65 3.15
448	650 V.—40 M.A.	3 A.	(1) 1.75 A., C.T., or 1.6 A., C.T. (2) 3.5 A., C.T.		1-47, 2A5 or 3-77, 6K7; 1-42, 6F6 2-24, 27, or 3-56, 57	M L	2 1/2" x3 3/4" x2 1/2" 2 1/2" x3 3/4" x2 1/2"	2 1/2" x2 1/2" Universal	3 1/2 3 3/4	2.90 3.40
476	650 V.—40 M.A.	2 A.		1.6 A., C.T.		M L	1 1/2" x3" x2 1/2" 2 1/2" x3" x2 1/2"	2 1/2" x2" Universal	2 1/4 2 1/2	2.00 2.50
49	650 V.—40 M.A.	3 A.	5.25 A., C.T.		2-24, 27, or 3-56, 57; 1-47, 2A5	M S	1 1/2" x3" x2 1/2" 3 1/2" x2 1/2" x2 1/2"	2 1/2" x2" 2" x1 1/2"	2 1/2 2 1/2	2.10 2.40
60	650 V.—50 M.A.	3 A.	(1) 1.75 A., C.T. (2) 5.25 A.		1-47, 2A5 3-24, 27, or 3-56, 57	M L	2 1/2" x3 3/4" x2 1/2" 2 1/2" x3 3/4" x2 1/2"	2 1/2" x2 1/2" Universal	3 1/4 3 3/4	2.90 3.40
660	650 V.—50 M.A.	3 A.	(1) 1.5 A., C.T., or 1.9 A., C.T. (2) 5.25 A., C.T.		1-47, 2A5, or 4-77, 6K7; 1-42, 6F6 3-24, 27, or 3-56, 57	M L	2 1/2" x3 3/4" x2 1/2" 2 1/2" x3 3/4" x2 1/2"	2 1/2" x2 1/2" Universal	3 1/4 3 3/4	3.10 3.60
61	700 V.—60 M.A.	3 A.	7 A., C.T.		3-24, 27 or 6-56, 58; 1-47, 2A5	M S	2 1/2" x3 3/4" x3 1/2" 4" x3 1/2" x3 3/4"	3 1/2" x2 1/2" 2 1/2" x2 1/2"	4 1/2 5	3.10 3.40
661	700 V.—60 M.A.	3 A.	(1) 1.75 A., C.T., or 1.9 A., C.T. (2) 7 A., C.T.		1-47, 2A5, or 4-77, 6K7; 1-42, 6F6 4-24, 27 or 7-56, 58	M L	2 1/2" x3 3/4" x3 1/2" 3 1/2" x3 3/4" x3 1/2"	3 1/2" x2 1/2" Universal	4 3/4 5 1/4	3.40 3.90
62	700 V.—70 M.A.	3 A.	(1) 3.5 A., C.T. (2) 9 A.		2-47, 2A5 5-24, 27, or 9-56, 58	M S	2 1/2" x3 3/4" x3 1/2" 4" x3 1/2" x3 1/2"	3 1/2" x2 1/2" 2 1/2" x2 1/2"	5 5 1/2	3.75 4.00
662	700 V.—70 M.A.	3 A.	(1) 3.5 A., C.T., or 2.5 A., C.T. (2) 9 A., C.T.		2-47, 2A5, or 6-77, 6K7; 1-42, 6F6 5-24, 27, or 9-56, 58	M L	2 1/2" x3 3/4" x3 1/2" 3 1/2" x3 3/4" x3 1/2"	3 1/2" x2 1/2" Universal	5 5	3.90 4.40
63	700 V.—110 M.A.	3 A.	(1) 3.5 A., C.T. (2) 10.5 A.		2-47, 2A5 6-24, 27, or 10-56, 57	M L	2 1/2" x4 1/2" x3 1/2" 3 1/2" x4 1/2" x3 1/2"	3 1/2" x2 1/2" Universal	6 6 1/2	4.20 4.70
663	700 V.—110 M.A.	3 A.	(1) 3.5 A., C.T., or 3.5 A., C.T. (2) 10.5 A., C.T.		2-47, 2A5, or 7-77, 6K7; 2-42, 6F6 6-24, 27, or 10-56, 57	M L	2 1/2" x4 1/2" x3 1/2" 3 1/2" x4 1/2" x3 1/2"	3 1/2" x2 1/2" Universal	6 1/4 6 3/4	4.40 4.90
64	700 V.—100 M.A.	3 A.	(1) 3.5 A., C.T. (2) 15 A.		2-47, 2A5 9-24, 27, or 15-56, 57	M L	2 1/2" x4 1/2" x3 1/2" 3 1/2" x4 1/2" x3 1/2"	3 1/2" x2 1/2" Universal	7 7 1/2	4.75 5.25
65	650 V.—40 M.A.	3 A.		1.6 A., C.T.	3-77, 78, 6K7; 1-42, 6F6	M S L	2" x3" x2 1/2" 3 1/2" x2 1/2" x2 1/2" 2 1/2" x3" x2 1/2"	2 1/2" x2" 2" x1 3/4" Universal	2 1/4 2 3/4 2 3/4	2.40 2.65 2.65
66	650 V.—50 M.A.	3 A.		2 A., C.T.	4-77, 78, 6K7; 1-42, 6F6	M S	2 1/2" x3 3/4" x2 1/2" 3 1/2" x2 1/2" x3 1/2"	2 1/2" x2 1/2" 2 1/2" x2 1/2"	3 1/4 3 3/4	2.90 3.10
67	700 V.—70 M.A.	3 A.		3 A., C.T.	5-77, 78, 6K7; 2-42, 6F6	M S	2 1/2" x3 3/4" x3 1/2" 4" x3 1/2" x3 3/4"	3 1/2" x2 1/2" 2 1/2" x2 1/2"	4 1/2 5	3.70 4.00
68	700 V.—120 M.A.	3 A.		4.5 A., C.T.	10-78, 6C6, 6K7; 2-42, 6F6	M L	2 1/2" x4 1/2" x3 1/2" 3 1/2" x4 1/2" x3 1/2"	3 1/2" x2 1/2" Universal	6 6 1/2	4.50 5.00
58	700 V.—100 M.A.	3 A.		5 A., C.T.	12-78, 6C6, 6K7; 2-42, 6F6	S	4 3/4" x4" x3 1/2"	3" x2 1/2"	7 1/2	5.75
59	800 V.—120 M.A.	3 A.	(1) 3.5 A., C.T. (2) 14.5 A., C.T.		2-47, 2A5 8-24, 27 or 14-56, 57	S	4 3/4" x4" x3 3/4"	3" x2 1/2"	9	7.25
70	700 V.—100 M.A.	3 A.	6 A., C.T.	3.3 A., C.T.	Including 77, 78, 6K7; 42, 6F6, 47 2A5, 24, 27, 58, 58	S L	4 3/4" x4" x3 1/2" 3 1/2" x4 1/2" x3 1/2"	3" x2 1/2" Universal	8 8	5.75 5.75
80	800 V.—150 M.A.	3 A.		2.5 A., C.T.	6J7, 6Y7, 2-6L6	S	4 3/4" x3 3/4" x3 3/4"	3 1/2" x2 1/2"	7 3/4	7.50
75	750 V.—180 M.A.	3 A.	6 A., C.T.	3.5 A., C.T.		M S L	2 1/2" x4 1/2" x3 3/4" 4 3/4" x3 3/4" x3 3/4" 4 1/2" x4 1/2" x3 3/4"	3 1/2" x3" 3 1/2" x2 1/2" Universal	8 8 8	7.25 7.50 7.50
77	800 V.—200 M.A.	3 A.		5.5 A., C.T.		S	4 3/4" x3 3/4" x3 3/4"	3 1/2" x3"	9	7.75
74	745 V.—145 M.A.	3 A.		5 A., C.T.	6L6, 42, 6F6	S M L	4 3/4" x4" x3 1/2" 2 1/2" x4 1/2" x3 3/4" 3 1/2" x4 1/2" x3 3/4"	3" x3" 3 1/2" x3" Universal	8 1/4 8 3/4 8 3/4	6.75 6.50 6.75
85	560 V.—50 M.A.			(1) 1.5 A. (2) .6 A.		L	3" x3" x2 1/2"	Universal	3	2.50
					7.5 V. Fil.		1.5 V. Fil.			
50	600 V.—70 M.A.	(1) 3 A. (2) 1/2 A.	3.5 A., C.T.		(1) 4.2 A. (2) 1.05 A.	S T	4 1/2" x3 1/2" x3 3/4" 3 1/2" x3 3/4" x3 3/4"	2 1/2" x2 1/2" Universal	5 4 1/2	4.75 4.20
54	800 V.—110 M.A.	3 A.	(1) 3.5 A. (2) 3 A., C.T.		(1) 1.05 A. (2) 5.25 A.	S T	4 3/4" x4" x4" 3 3/4" x4 1/2" x3 3/4"	3" x3" Universal	8 3/4 8 1/4	5.75 5.25
73	900 V.—110 M.A.		10.5 A.		(1) 2.5 A. (2) 2.5 A., C.T.	S	4 3/4" x4" x4 1/2"	3" x3 3/8"	10 1/2	8.25
76	700 V.—100 M.A.	3 A.	(1) 2 A., C.T. (2) 3 A., C.T.		(1) 5A. (2) 1A.	S	4" x3 1/4" x3 1/2"	2 1/2" x2 1/2"	5 1/4	6.75

The above are 50-60 cycle; for 25 cycle, add 60% to price, and for 220 volt, 50-60 cycle, add 10%

FILAMENT TRANSFORMERS

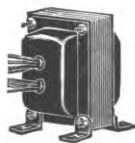
Capacity at 50-60 Cycles	Number	Mounting	Mounting Centers	Core	H. L. W.	Wt.	Price
115 V. to 2 1/2 Volts, 12 A. C.T.	E4-1051	E4	3 3/8"	1" x1"	2 1/2" x4" x2 1/2"	2 1/4	\$2.15
115 V. to 6.3 Volts, 3 A.	B5-860	B5	2 3/8"	3/4" x 3/4"	2 1/2" x2 1/2" x1 1/2"	1	1.75
115 V. to 2 1/2 Volts, 6 A. C.T.	B5-861	B5	2 3/8"	3/4" x 3/4"	2 1/2" x2 1/2" x1 1/2"	1	1.75
115 V. to 6.3 V., 4 A. C.T., 5 V., 3 A.	S-25	S	2 1/2" x2 1/2"	1 1/4" x1 1/2"	4 1/2" x3 1/2" x3 3/4"	3	3.90
115 V. to 5 V., 3 A.	B5-859	B5	2 3/8"	3/4" x 3/4"	2 1/2" x2 1/2" x1 1/2"	1	1.60

DRIVER TRANSFORMERS

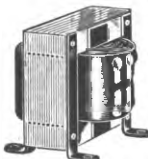
Drivers	Class	Driving	Number	Mounting	Ratio Pri. to 1/2 Sec.	Mounting Centers	H. L. W.	Wt.	Price
6C5, 6R7 or 6F6 Triode	AB	6L6 P.P.	E-1045	E	5-11	2" x1 1/2"	3 1/2" x2 1/2" x2 1/2"	2 1/2	\$3.40
6C5, 6R7 or 6F6 Triode	AB	6L6 P.P.	B7-830	B7	5-11	2 3/8"	2 1/2" x2 1/2" x1 1/2"	1	2.10
6A6 or 53 Paralleled		6N7 P.P.	B7-831	B7	5-1	2 3/8"	2 1/2" x2 1/2" x1 1/2"	1	2.10
30.	B	1-19 or 2-30	B4-819	B4	2.5-1	2 3/8"	2" x3 3/8" x1 3/4"	1	1.60
89 Triode or 46 or 59	B	1-79 2-46 or 2-59	B7-832	B7	2.2-1	2 3/8"	2 1/2" x2 1/2" x1 1/2"	1	2.10

HALLDORSON REPLACEMENT TRANSFORMERS

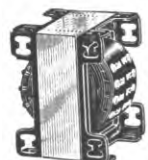
OUTPUT TRANSFORMERS



L Mtg.



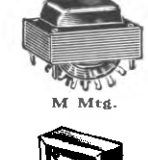
U Mtg.



T Mtg.



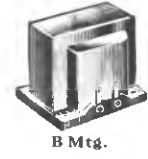
S Mtg.



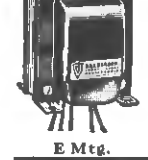
M Mtg.



B5 A5 Mtg.



B Mtg.



E Mtg.

To Feed From	Voice Call Impedance	Number	Mounting	Mounting Centers	Core	H. Size L. W.	Wt.	Price
Universal.....		B6-816	B6	Universal	3/4" x 3/4"	2" x 2 3/4" x 1 3/4"	1	\$1.60
		B5-816	B5	2 3/8"	3/4" x 3/4"	2 3/4" x 2 3/4" x 1 3/4"	1	1.60
		B4-816	B4	2 5/8"	3/4" x 3/4"	2" x 3 3/8" x 1 3/4"	1	1.60
P. P. 6L6—(60 Watt).....	4, 8, 15, 500	S-72	S	2 1/2" x 2 1/2"	1 1/4" x 1 1/4"	4 1/4" x 3 1/4" x 3 3/8"	5 1/2	4.25
P. P. 6L6, 2A3, 6B5 (30 Watt)	4, 8, 15, 500	E-1042	E	2" x 1 1/4"	1" x 1"	3" x 2 3/4" x 2 3/8"	2 1/2	3.50
P. P. 6L6, Reverse Feedback (35W).....	4, 8, 15, 500	S-81	S	2 1/2" x 2 1/2"	1 1/4" x 1 1/4"	4" x 3 1/4" x 3 3/8"	4 3/4	5.00
2A3, 43, 45, 50, 59, 71A.....	4, 8, 15	B5-850	B5	2 3/8"	3/4" x 3/4"	2 3/8" x 2 3/8" x 1 3/4"	1	1.60
31, 33, 42, 47, 79, 2A5.....		B5-851	B5	2 3/8"	3/4" x 3/4"	2 3/8" x 2 3/8" x 1 3/4"	1	1.60
6A4, 10, 33, 41, 53.....		B5-852	B5	2 3/8"	3/4" x 3/4"	2 3/8" x 2 3/8" x 1 3/4"	1	1.60
P. P. 2A3, 43, 45, 50, 59, 71A, 6B5.....		B5-853	B5	2 3/8"	3/4" x 3/4"	2 3/8" x 2 3/8" x 1 3/4"	1	1.60
P. P. 31, 33, 42, 47, 79, 2A5.....		B5-854	B5	2 3/8"	3/4" x 3/4"	2 3/8" x 2 3/8" x 1 3/4"	1	1.60
P. P. 6A4, 10, 38, 41, 53.....		B5-855	B5	2 3/8"	3/4" x 3/4"	2 3/8" x 2 3/8" x 1 3/4"	1	1.60
P. P. 2A3, 43, 45, 50, 59, 71A, 6B5.....	2, 4, 8	A5-700	A5	2"	5/8" x 5/8"	2" x 2 1/2" x 1 1/2"	10 oz.	1.20
2A5, 42, 47, 79 — For Midget —	3 to 6 Ohm	D4-600	D4	2"	1 1/2" x 5/8"	1 1/2" x 2 3/8" x 1 1/4"	1 1/2	.90
— and A.C.-D.C. Sets —	Voice Coll	D4-601	D4	2"	1 1/2" x 5/8"	1 1/2" x 2 3/8" x 1 1/4"	1 1/2	.90
41, 19, 38		D4-602	D4	2"	1 1/2" x 5/8"	1 1/2" x 2 3/8" x 1 1/4"	1 1/2	.90
Universal Types for Midget and A.C.-D.C. Sets	3 to 6 Ohm	A4-770	A4	2 3/8"	5/8" x 5/8"	1 3/4" x 2 3/8" x 1 1/4"	10 oz.	1.10
2A5, 19, 38, 41, 42, 43, 47, 79.....	Voice Coll	A5-771	A5	2"	5/8" x 5/8"	2" x 2 1/2" x 1 1/2"	10 oz.	1.10
2A5, 19, 38, 41, 42, 43, 47, 79.....								
Single and P. P. 2A5, 19, 38, 41, 42, 43, 47, 79.....	3 to 6 Ohm	A5-772	A5	2"	5/8" x 5/8"	2" x 2 1/2" x 1 1/2"	10 oz.	1.20
	Voice Coll							

AUDIO TRANSFORMERS

Application	Number	Mounting	Over All Ratio	Mounting Centers	Core	H. Size L. W.	Wt.	Price
Single Plate to Single Grid Class A From general purpose tubes such as 27, 56, etc. To 27, 45, 2A5, etc.	B-805	B	2 1/2-1	1 1/2" x 2 1/2"	3/4" x 3/4"	2 1/2" x 2 3/4" x 2 3/8"	1 1/2	\$2.10
	B-806	B	2 1/2-1	1 1/2" x 2 1/2"	3/4" x 3/4"	2 1/2" x 2 3/4" x 2 3/8"	1 1/2	2.10
	B4-805	B4	2 1/2-1	2 1/8"	3/4" x 3/4"	2 1/2" x 3 3/8" x 1 3/4"	1	1.70
	B5-806	B5	3-1	2 1/8"	3/4" x 3/4"	2 1/2" x 2 3/4" x 1 3/4"	1	1.70
	B4-807	B4	3 1/2-1	2 1/8"	3/4" x 3/4"	2" x 3 3/8" x 1 3/4"	1	1.70
	B4-808	B4	2 1/2-1	2 1/8"	3/4" x 3/4"	2" x 3 3/8" x 1 3/4"	15 oz.	1.30
Single Plate to Pushpull Grids Class A From general purpose tubes such as 27, 56, etc. To 27's, 45's, 2A5's, etc., in Push Pull.	A4-751	A4	3-1	2 1/2"	5/8" x 5/8"	1 3/4" x 2 3/8" x 1 1/2"	10 oz.	1.30
	A4-752	A4	2 1/2-1	2 1/8"	5/8" x 5/8"	1 3/4" x 2 3/8" x 1 1/4"	9 oz.	1.05
	E-1027	E	4-1	2" x 2"	1" x 1"	3" x 2 3/8" x 2 3/8"	2 1/2	3.40
	E4-1027	E4	4-1	3 1/2"	1"	2 1/2" x 2 3/4" x 2 3/8"	2 1/2	2.75
	B-810	B	4-1	1 1/2" x 2 1/2"	3/4" x 3/4"	2 1/2" x 2 3/4" x 2 3/8"	1 1/2	2.15
	B4-810	B4	4-1	2 1/8"	3/4" x 3/4"	2" x 3 3/8" x 1 3/4"	1	1.85
Universal Pushpull Input To replace any input transformer used in Class A Circuit.	B5-810	B5	4-1	2 1/8"	3/4" x 3/4"	2 1/2" x 2 3/4" x 1 3/4"	1	1.85
	B7-893	B7	3-1	2 1/8"	3/4" x 3/4"	2 1/2" x 2 3/4" x 1 3/4"	1 1/2	2.10
	B4-815	B4	3 1/2-1	2 1/8"	3/4" x 3/4"	1 3/4" x 2 1/4" x 1 1/8"	15 oz.	1.50
	A4-761	A4	3 1/2-1	2 1/8"	5/8" x 5/8"	1 3/4" x 2 3/8" x 1 1/2"	9 oz.	1.10
	A4-760	A4	3-1	2 1/8"	5/8" x 5/8"	1 3/4" x 2 3/8" x 1 1/2"	10 oz.	1.40
	B5-809	B5	4-1	2 3/8"	3/4" x 1"	2 3/8" x 2 3/4" x 2"	1 1/4	1.90
Two Plates to Two Grids—Class A	B6-818	B6	3-1	Universal	3/4" x 3/4"	2 1/2" x 2 3/4" x 2 3/8"	1	1.60
	B4-818	B4	3-1	2 1/8"	3/4" x 3/4"	2 1/2" x 3 3/8" x 1 3/4"	1	1.60
	B5-818	B5	3-1	2 3/8"	3/4" x 3/4"	2 3/8" x 2 3/4" x 1 3/4"	1	1.60
B-811	B	1 1/2-1	1 1/2" x 2 1/2"	3/4" x 3/4"	2 1/2" x 2 3/4" x 2 3/8"	1 1/2	2.40	
B4-811	B4	1 1/2-1	2 1/8"	3/4" x 3/4"	2" x 3 3/8" x 1 3/4"	1	2.00	

MICROPHONE AND LINE TRANSFORMERS

Application	Pri. Impedance	Sec. Impedance	Number	Mtg.	Mounting Centers	H. Size L. W.	Wt.	Price
Microphone, Line or Mixer to Single Grid.....	*500 C.T., 250, *200 C.T., 50	Grid of Tube C.T.	E-1040	E	2" x 2"	3" x 2 3/8" x 2 3/8"	2 1/2	\$4.20
Line to Line or Line to Voice Coll.....	*500 C.T., 250, *200 C.T., 50	4, 8, 15, 500	E-1041	E	2" x 2"	3" x 2 3/8" x 2 3/8"	2 1/2	4.00
Microphone to Single Grid.....	200 C.T.	Grid of Tube	F-822	F	2 1/2"	3" x 2 3/4" diam.	1 3/4	2.40
Line to Multiple Speakers—60 Watt.....	250 or 500	Adjustable to Match 1 to 6 Speakers	P-300	Special		3" x 5" x 4 1/2"	6 1/2	\$12.50

FILTER CHOKES

Number	Ohms	Henries	At M.A.	Mounting	Mounting Centers	Core	H. Size L. W.	Wt.	Price
E-1030	250	23	110	E	2" x 2"	1" x 1"	3" x 2 1/2" x 2 1/2"	2 1/2	\$2.28
E4-1030	250	23	110	E4	3 1/2"	1" x 1"	2 1/2" x 4 1/2" x 3 1/2"	2 1/2	1.90
C4-967	350	31	80	C4	3 1/2"	7/8" x 7/8"	2 1/2" x 3 3/8" x 2 1/4"	1 1/2	1.60
C4-968	1400	50	60	C4	3 1/2"	1 1/2" x 1 1/2"	2 1/2" x 3 3/8" x 2 1/4"	1 1/2	1.60
B4-836	700	30	35	B4	2 1/8"	3/4" x 3/4"	2" x 3 3/8" x 1 3/4"	1	1.60
B4-837	400	15	40	B4	2 1/8"	3/4" x 3/4"	2" x 2 3/8" x 1 3/4"	1	1.10
T-1002	300	11	50	A4	2 1/8"	5/8" x 5/8"	1 3/4" x 2 1/4" x 1 1/4"	10 oz.	.90
T-1001	400	12	40	A4	2 1/8"	5/8" x 5/8"	1 3/4" x 2 1/4" x 1 1/4"	10 oz.	.90
T-391	350	14.5	35	A4	2 1/8"	5/8" x 5/8"	1 3/4" x 2 1/4" x 1 1/4"	10 oz.	.90
T-333	200	6.5	60	A4	2 1/8"	5/8" x 5/8"	1 3/4" x 2 1/4" x 1 1/4"	10 oz.	.90
T-341	400	12.5	30	D4	2"	1 1/2" x 5/8"	1 3/4" x 2 1/4" x 1 1/4"	6 oz.	.80
F-343	200	5.5	35	D4	2"	1 1/2" x 5/8"	1 3/4" x 2 1/4" x 1 1/4"	6 oz.	.80
E-1031	2200	80	28	E	2"	1" x 1"	3 1/2" x 2 3/8" x 2 3/8"	2 1/2	4.00
E-1032	160	7.5	150	E	2" x 1 1/4"	1" x 1 1/4"	3 1/2" x 2 3/8" x 3"	2 1/2	2.50

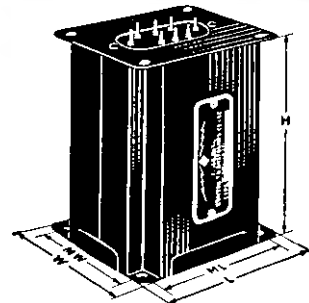


KENYON TRANSFORMERS



DIMENSIONS OF "T"-LINE TRANSFORMERS

MOUNTING DIMENSIONS			OVERALL DIMENSIONS		
Case No.	ML	MW	Length (L)	Width (W)	Height (H)
1A	2 $\frac{3}{8}$	1 $\frac{1}{8}$	2 $\frac{7}{8}$	2	2 $\frac{7}{8}$
2A	2 $\frac{1}{8}$	1 $\frac{1}{8}$	2 $\frac{3}{4}$	2 $\frac{3}{8}$	3 $\frac{1}{8}$
3A	2 $\frac{1}{8}$	1 $\frac{1}{8}$	3 $\frac{1}{8}$	2 $\frac{1}{8}$	3 $\frac{5}{8}$
4A	3 $\frac{7}{8}$	2 $\frac{7}{8}$	4 $\frac{1}{2}$	3	3 $\frac{7}{8}$
5A	4 $\frac{1}{8}$	3 $\frac{1}{8}$	5	3 $\frac{7}{8}$	5
5 $\frac{1}{2}$ A	4 $\frac{1}{8}$	3 $\frac{3}{8}$	5	4 $\frac{1}{2}$	5
6A	4 $\frac{1}{8}$	4 $\frac{1}{2}$	5	5 $\frac{1}{8}$	5
7A	5 $\frac{1}{2}$	4 $\frac{1}{8}$	6 $\frac{1}{8}$	5 $\frac{7}{8}$	6 $\frac{3}{8}$
8A	5 $\frac{3}{4}$	4 $\frac{1}{8}$	6 $\frac{3}{8}$	5 $\frac{1}{2}$	7 $\frac{1}{8}$
9A	6 $\frac{1}{8}$	5 $\frac{3}{4}$	7 $\frac{3}{4}$	6 $\frac{5}{8}$	7 $\frac{1}{8}$
10A	8 $\frac{5}{8}$	7 $\frac{1}{2}$	9 $\frac{1}{2}$	8 $\frac{1}{4}$	10 $\frac{5}{8}$



LOW IMPEDANCE SOURCE TO GRID TRANSFORMERS

Type No.	From	Primary Ohms	Secondary Ohms	Case No.	List Price
T-1	(Hum Bucking Type) S.B. or D.B. Mic.	400-300-200-100-50	80,000 Single Grid	1A	\$4.50
T-2	(Hum Bucking Type) Any Line	500-333-250-200-125-50	80,000 Single Grid	1A	4.50
T-3	(Hum Bucking Type) Any Line	500-333-250-200-125-50	80,000 P.P. Grids	1A	4.50
T-4	Plate or D.B. Mic.	400-20,000	160,000 Single Grid	2A	4.50
T-5	S.B. or D.B. Mic.	400 C.T.	140,000 Single Grid	1A	3.50
T-6	(See Bottom Page 9) Any Line	500-333-250-200-125-50	20,000 Single Grid	1A	7.75
T-7	Ratio 1:100	S.B. Mike 100	P.P. cl. A Grids	1A	3.75

LINE TRANSFORMERS — LINE to LINE and LINE to VOICE COIL

Type No.	Primary Ohms	Secondary Ohms	Maximum Level	Case No.	List Price
T-25	500-200-50	500-200-50	+24 D.B.	2A	4.50
T-26	(Hum Bucking Type) 500-333-250-200-125-50	500-333-250-200-125-50	+24 D.B.	1A	4.50
T-27	500-200	15-8-4	15 watts	3A	5.00
T-28	500-200	15-8-4	30 watts	4A	5.50
T-29	500-200	15-8-4	60 watts	5A	7.75

KEN-O-LINE AUTO TRANSFORMERS (TO COUPLE ONE TO SIX SPEAKERS TO LINE)

Type No.	Primary Ohms	Secondary Ohms	Maximum Level	Case No.	List Price
T-30	500-1000-1500-2000-2500-3000	16-36-64-1-1.4-2-3-2-4-5-8-10-16	10 watts	2A	4.50
T-31	500-1000-1500-2000-2500-3000	16-36-64-1-1.4-2-3-2-4-5-8-10-16	30 watts	4A	6.50
T-32	500-1000-1500-2000-2500-3000	16-36-64-1-1.4-2-3-2-4-5-8-10-16	60 watts	5A	8.75

INTERSTAGE AUDIO TRANSFORMERS

Type No.	From	To	Ratio	Case No.	List Price
T-51	Single 10,000 Ohm Plate	Single Grid	1:4	1A	\$3.25
T-52	Single 10,000 Ohm Plate	P.P. Grids	1:4	1A	3.25
T-53	Detector or S.B. Mic.	Single Grid		1A	4.00
T-54	P.P. 10,000 Ohm Plates	P.P. Grids	1:1.8	2A	4.50
T-55	Single 10,000 Ohm Plate	Single Grid	1:3	2A	4.00
T-56	Single 10,000 Ohm Plate	P.P. Grids	1:2	2A	4.00
T-57	(Hum Bucking Type) Single 10,000 Ohm Plate	Single Grid	1:2	2A	4.50
T-58	(Hum Bucking Type) Single 10,000 Ohm Plate	P.P. Grids	1:2	2A	4.50

KEN-O-DRIVE UNIVERSAL DRIVER TRANSFORMERS

T-261	500-ohm line to P. P. grids. Level 7 watts Primary and Secondary tapped to drive any Class "B" grids	3A	\$6.00
T-262	500-ohm line to P. P. grids. Level 18 watts Primary and Secondary tapped to drive any Class "B" grids	4A	7.00
T-264	To match a 500-ohm line or any driver plates to any Class "B" grids, maximum driving power, 7 watts	3A	6.00
T-263	To match a 500-ohm line or any driver plates to any Class "B" grids, maximum driving power, 18 watts	4A	8.25

DRIVER TRANSFORMERS

Type No.	Primary To Match	Class AB or Class B Tubes	Ratio (Pri. to 1/2 Sec.)	Case No.	List Price
T-251	Single 53, 6A6, 6N7, 56, 6C5	53, 6A6, 6N7	2.3:1	2A	3.25
T-252	Single 30, 49, 89	19, 30's, 49's	1.7:1	1A	2.75
T-253	Single 46, 59	46's, 59's, 6F6's	2.3:1	2A	3.50
T-254	Single 45, 2A5, 6F6, 42	45's, 2A5's, 6F6's, 42's	3.0:1	2A	3.50
T-255	P.P. 56, 6C5, 53, 6N7	6L6's	3.2:1	2A	3.25
T-256	P.P. 56, 6C5	45's, 2A3's, 6F6's	3.0:1	2A	3.50
T-257	P.P. 45's	4-46's	3.0:1	2A	3.50
T-258	P.P. 45's	800's	2.2:1	3A	4.75
T-259	P.P. 2A3's	203A's, 838's, 805's	3.1:1	4A	5.75
T-260	4-2A3's	HD203A's, 4-838's	3.1:1	4A	7.00
T-265	4-2A3's	T-814's, 806's, 150T's, HF-200's	1.35:1	4A	7.00
T-266	P.P. 2A3's	50T's, 100TL's, HK-154	1.5:1	4A	7.00
T-267	4-2A3's	354E's, 354F's	2.1:1	4A	7.00
T-271	P.P. 45's, 2A3's, 6F6's	6L6's, 809's, TZ40's	3.7:1	3A	4.75



KENYON TRANSFORMERS



PLATE AND FILAMENT TRANSFORMERS

Type No.	High Voltage—Volts	Filament No. 1		Filament No. 2		Filament No. 3		Filament No. 4		Case No.	List Price	
		M.A.	Volts	Amps	Volts	Amps	Volts	Amps	Volts			Amps
T-249*	235-0-235	20	6.3C.T.	0.6	6.3C.T.	0.9				2A	\$4.50	
T-245*	320-0-320	40	5	2	6.3C.T.	2				3A	5.00	
T-201*	0-75	70	5	2						2A	4.00	
T-205*	350-0-350	75	5	2	6.3C.T.	3				4A	6.50	
T-222*	250-0-250	50	5	2	6.3C.T.	2				3A	5.25	
T-206*	325-0-325	100	5	3	6.3C.T.	3	6.3C.T.	2		5A	8.25	
T-212	420-0-420	125	5	3	6.3C.T.	3	2.5C.T.	4		5A	9.25	
T-214	420-360-125-0-360-420	150	5	3	2.5C.T.	3	2.5C.T.	5	6.3C.T.	3	9.75	
T-244*	425-0-425	165	5	3	6.3C.T.	3	6.3C.T.	3		6A	11.00	
T-248*	425-0-425	165	5	3	2.5C.T.	6	2.5C.T.	6		6A	12.25	
T-213	520-110-0-520	180	5	3	2.5	3	6.3C.T.	3	6.3C.T.	3	11.00	
T-215	360-125-0-360	200	5	3	2.5C.T.	3	2.5C.T.	10	6.3C.T.	2.1	11.00	
T-247	590-0-590	200	5	3	6.3C.T.	3	6.3C.T.	3		5A	11.00	
T-216	520-85-0-520	250	5	3	2.5C.T.	3	6.3C.T.	3	6.3C.T.	3	12.50	
T-202*	0-150	20	6.3	0.6						1A	4.00	
T-220*	125-0-125	200	5	3						4A	6.00	
T-246	625-0-625	250	5	3	6.3C.T.	3	6.3C.T.	3		6A	13.25	
T-223	600-0-600	300	5	6	6.3C.T.	3	6.3C.T.	2		6A	11.50	
T-221	High Voltage Secondary	520-390-105-390-520 to deliver 400 V.D.C. at 400 M. A. and 300 V.D.C. at 160 M.A.									7A	25.25
	Filament No. 1	Filament No. 2		Filament No. 3		Filament No. 4		Filament No. 5				
	5V-6A	5V-3A		2.5V-3A		6.3V C.T.-4A		6.3V C.T.-4A				

* Indicates unit designed for condenser input. (All other units should be used choke input.)

POWER LINE AUTO TRANSFORMERS

Type No.	Input	Output	Capacity Volt-Amperes	Case No.	List Price
T-217	88 to 130 volts	115 volts	150	3A	\$6.50
T-218	88 to 130 volts	115 volts	300	4A	8.50
T-219	88 to 130 volts	115 volts	500	5A	11.00

FILAMENT TRANSFORMERS — SINGLE WINDING

Type No.			Case No.	List Price
T-388	2.5, 5, 6.3 V-2A	1000 V. Test	1A	\$2.75
T-379	2.5 V.-5 A. CT.	2000 V. Test	1A	3.00
T-352	2.5 V.-10 A. CT.	2000 V. Test	2A	3.50
T-360	2.5 V.-10 A. CT.	5000 V. Test	3A	5.00
T-354	5 V.-3 A. CT.	2000 V. Test	2A	3.50
T-357	5.25 V.-12 A. CT.	2000 V. Test	4A	6.00
T-358	5.25 V.-20 A. CT.	2000 V. Test	5A	7.00
T-380	5, 5.1, 5.25 V.-8 A. CT.	2000 V. Test	4A	6.00
T-381	5, 5.1, 5.25 V.-10.5 A. CT.	2000 V. Test	4A	6.50
T-382	5, 5.1, 5.25 V.-16 A. CT.	2000 V. Test	4A	7.25
T-383	5, 5.1, 5.25 V.-21 A. CT.	2000 V. Test	5A	7.75
T-393	5, 5.1, 5.25 V.-26 A. CT.	2000 V. Test	5A	8.00
T-351	6.3 V.-3 A. CT.	2000 V. Test	2A	3.25
T-378	6.3, 7.5 V.-7 A. CT.	2000 V. Test	3A	4.50
T-392	7.5, 7.7, 7.9 V.-6 A. CT.	2000 V. Test	3A	4.25
T-353	7.5 V.-4 1/2 A. CT.	2000 V. Test	2A	3.50
T-359	7.5 V.-9 A. CT.	2000 V. Test	4A	5.50
T-365	10 V.-4 A. CT.	5000 V. Test	3A	5.00
T-361	10 V.-8 A. CT.	5000 V. Test	4A	6.50
T-384	10, 10.5, 11 V.-5 A. CT.	2000 V. Test	4A	6.50
T-385	10, 10.5, 11 V.-10 A. CT.	2000 V. Test	5A	8.00
T-387	6.3, 6.45, 6.6 V.-8A	2000 V. Test	3A	4.00
T-389	2.5 V.-10 A. CT.	9000 V. Test	4A	7.50
T-390	5 V.-20 A. CT.	10000 V. Test	5 1/2 A	14.00
T-391	5 V.-20 A. CT.	5000 V. Test	5A	8.00

FILAMENT TRANSFORMERS — TWO WINDINGS

T-386	6.3 V.-3 A. CT.	2000 V. Test	5 V.-4 A. CT.	2000 V. Test	3A	\$4.50
T-369	2.5 V.-8 A. CT.	1000 V. Test	6.3 V.-4 A. CT.	1000 V. Test	4A	5.50
T-368	6.3 V.-4 A. CT.	2000 V. Test	6.3 V.-4 A. CT.	2000 V. Test	4A	5.50
T-366	2.5 V.-10 A. CT.	5000 V. Test	2.5 V.-10 A. CT.	5000 V. Test	4A	7.00
T-363	10 V.-6.5 A. CT.	5000 V. Test	10 V.-3.25 A.	5000 V. Test	5A	8.25
T-362	11-12 V.-8 A. CT.	5000 V. Test	10-11 V.-3.5 A. CT.	5000 V. Test	5A	9.75

FILAMENT TRANSFORMERS — THREE WINDINGS

T-376	6.3 V.-4 A. CT.	2000 V. Test	6.3 V.-4 A. CT.	2000 V. Test	5 V.-3 A.	2000 V. Test	4A	6.50
T-364	2.5 V.-8 A. CT.	750 V. Test	2.5 V.-10 A. CT.	750 V. Test	5 V.-6 A.	750 V. Test	4A	7.00
T-356	6.3 V.-3 A. CT.	750 V. Test	5 V.-4 A. CT.	3000 V. Test	5 V.-8 A. CT.	3000 V. Test	4A	7.75
T-355	5 V.-3 A. CT.	4000 V. Test	5 V.-3 A. CT.	4000 V. Test	5 V.-6 A. CT.	4000 V. Test	4A	7.00
T-375	2.5 V.-5 A. CT.	6000 V. Test	2.5 V.-5 A. CT.	6000 V. Test	2.5 V.-10 A. CT.	6000 V. Test	4A	8.25



KENYON TRANSFORMERS



PREAMPLIFIER OUTPUT TRANSFORMERS

Type No.	From	Secondary Ohms	Case No.	List Price
T-101	Single 56, 76, 6C5	200-500	1A	\$3.25
T-102	P.P. 56, 76, 6C5	200-500	1A	3.25

OUTPUT TRANSFORMERS TO 500-200 or 15-8-4 OHMS

Type No.	From	Primary Ohms	Case No.	List Price
T-103	Class "A", P.P. 45's, 43's	10,000	2A	\$4.50
T-104	Single 2A5, 6F6, 42, 47, 89	7,000	2A	4.00
T-105	Class "A", P.P. 2A5's, 6F6's, 42's, 47's, 89's	14,000	2A	4.50
T-106	Class "A", P.P. 6B5's, 2B6's	10,000	3A	5.00
T-107	Class "A", P.P. 25L6's	2,000	2A	4.00
T-301	Class "A", P.P. 6L6's, Class AB 45's, 2A3's	5,000 or 3,000	4A	6.00
T-302	Class "AB", 6V6's, Class "B" 19, 49's, 53, 6N7, RK-34	10,000	3A	5.50
T-303	Class "AB", 42's, 6F6's, 2A5's, Class "B" 46's, 59's	10,000 or 6,000	4A	5.75
T-304	Class "AB", 4-45's, 4-2A3's	2,500 or 1,500	4A	7.00
T-305	Class "AB" 4-2A5's, 42's, 6F6's, Class "B" 4-46's, 59's	5,000 or 3,000	4A	7.00
T-306	Class "B", P.P. 25L6's	2,000	2A	4.75
T-307	Class "AB2", P.P. RK-39's, 807's, 4-6L6's	6,400 or 1,900	6A	13.25
T-317	Class "AB", P.P. 6L6's	6,600 or 3,800	4A	7.00
T-319	Class "AB2", P.P. 6L6's	6,000 or 3,800	5A	8.25

KEN-O-DYNE UNIVERSAL OUTPUT TRANSFORMERS

Type No.	Case No.	List Price	
T-108	3A	\$5.50	Will match any set of Push-Pull or Push-Pull Parallel—or a single plate to 500-200 or speaker voice-coils. Low impedance connection for speaker voice-coils range from 5 to 25 ohms.
T-109	4A	7.75	
T-110	5A	9.75	

GRID MODULATION TRANSFORMERS

Type No.	Application	Case No.	List Price
T-490	Single 2A5, 42, 6F6 to Grids of 203A's, 211's	2A	\$4.00
T-491	Single 45 to Grids of 203A's, 211's	2A	4.00
T-492	P.P. 45's to Grids of 203A's, 211's	3A	4.50

MODULATION TRANSFORMERS

Type No.	Primary Ohms	Max. Audio Level	Ohms	Secondary M.A.	Ohms	M.A.	Ohms	M.A.	Case No.	List Price
T-451	10,000	10 watts	5,000	100	3,000	100			2A	\$4.00
T-452	15,000	5 watts	5,000	50	3,000	50			1A	3.25
T-453	5,000	20 watts	5,000	130	3,000	130			4A	7.00
T-454	10,000 or 6,000	30 watts	8,000	75	6,000	100	4,000	140	4A	7.00
T-455	10,000	60 watts	9,000	130	7,000	150	5,000	180	5A	11.00
T-456	2,000	40 watts	9,000	100	7,000	125	5,000	150	5A	11.00
T-457	5,000 or 3,000	60 watts	7,000	120	5,000	160	3,000	220	5A	11.00
T-458	10,000	80 watts	9,000	130	7,000	150	5,000	180	6A	11.00
T-459	3,800	60 watts	7,000	200	5,000	250	2,500	300	5A	10.50
T-460	12,000	100 watts	10,000	150	8,000	175	6,000	200	6A	12.50
T-461	16,000	140 watts	10,000	175	7,000	200	5,000	240	6A	13.25
T-462	7,000	140 watts	8,000	200	6,000	250	4,000	300	6A	13.25
T-463	11,000	500 watts	6,000	400	4,000	500	3,000	570	8A	38.50
T-464	12,000	300 watts	8,000	250	6,000	300	4,000	370	7A	24.25
T-465	(Replaced by T-479)									
T-466	8,400	110 watts	8,000	160	5,000	200	3,000	270	6A	13.25
T-467	7,200	200 watts	6,500	240	4,500	280	3,000	350	7A	22.00
T-468	16,000	400 watts	8,000	300	5,000	375	3,000	500	8A	38.50
T-469	12,000	70 watts	10,000	120	7,000	140	4,500	180	5A	11.00
T-470	(Replaced by T-480)									
T-477	6,700 or 4,700	80 watts	10,000	130	7,000	160	4,500	200	5 1/2 A	11.00
T-478	16,000	225 watts	7,000	270	5,000	320	3,500	400	7A	24.00
T-479	9,000 or 6,700	300 watts	8,000	250	6,000	300	4,000	370	7A	24.50
T-480	9,000 or 6,700	500 watts	8,000	350	6,000	400	4,000	500	8A	38.50

PLATE TRANSFORMERS FOR STANDARD AMATEUR DUTY

Type No.	Secondary Voltage	D.C. Volts	D.C. M.A.	Case No.	List Price
T-668	1000/750-0-750/1000	500/750	300	5 1/2 A	\$9.75
T-669	1460/1180-0-1180/1460	1000/1250	300	7A	16.00
T-670	2360/2080/1760-0-1760/2080/2360	1500/1750/2000	300	8A	21.50
T-671	1460/1180-0-1180/1460	1000/1250	500	8A	21.50
T-672	1760/1460/1250-0-1250/1460/1760	1000/1250/1500	300	8A	19.75



KENYON TRANSFORMERS



KEN-O-TAP MODULATION TRANSFORMERS

KEN-O-TAP Transformers never grow obsolete! Ideal for amateurs who wish to keep up to date with new tube combinations. Will match any Class B tube or tubes to any Class C load.

Type No.	Audio Output Primary	Class "C" Secondary	Primary Range	Secondary Range	Case No.	List Price
T-489	15 watts	30 watts	2000 - 20000	200 - 20000	3A	\$4.50
T-493	40 watts	80 watts	2000 - 20000	200 - 20000	4A	6.50
T-494	75 watts	150 watts	2000 - 20000	200 - 20000	5A	9.75
T-495	125 watts	250 watts	500 - 18000	200 - 19000	7A	22.00
T-496	300 watts	600 watts	500 - 18000	200 - 19000	8A	33.00

PLATE TRANSFORMERS FOR HEAVY AMATEUR DUTY

Type No.	Primary Conn.	SECONDARY No. 1			SECONDARY No. 2			SECONDARY No. 3			Standard Amateur M.A. D.C.	Case No.	List Price
		D.C.	A.C.	M.A. D.C.	D.C.	A.C.	M.A. D.C.	D.C.	A.C.	M.A. D.C.			
T-664		600	740-0-740	150						200	5A	\$8.25	
T-655	High	450	575-0-575	250						325	5A	8.75	
	Low	350	460-0-460	250									
T-656	High	750	925-0-925	300						400	6A	12.00	
	Low	600	740-0-740	300									
T-657	High	1000	1170-0-1170	200	1000	1170-0-1170	200			250	7A	25.25	
	Low	750	900-0-900	200	750	900-0-900	200						
T-658	High	500	650-0-650	175	560	710-0-710	175	560	710-0-710	175	All windings	7A	23.00
	Medium	450	585-0-585	175	510	640-0-640	175	510	640-0-640	175			
	Low	400	520-0-520	175	450	570-0-570	175	450	570-0-570	175			
T-654	High	470	610-0-610	250	625	785-0-785	250	625	785-0-785	250	20% higher current	8A	30.25
	Medium	420	550-0-550	250	560	710-0-710	250	560	710-0-710	250			
	Low	375	490-0-490	250	500	630-0-630	250	500	630-0-630	250			
T-659	High	500	650-0-650	350	560	710-0-710	350	560	710-0-710	350	9A	33.00	
	Medium	450	585-0-585	350	510	640-0-640	350	510	640-0-640	350			
	Low	400	520-0-520	350	450	570-0-570	350	450	570-0-570	350			
T-665	High	1250	1470-0-1470	250						300	7A	22.00	
	Low	1000	1180-0-1180	250									
T-666		1250	1460-0-1460	350						400	8A	26.50	
T-667		1250	1460-0-1460	500						600	9A	33.00	
T-660		1250	1460-0-1460	500	500	630-0-630	200			600-400	9A	38.50	
T-661		1750	2080-0-2080	200						250	7A	22.00	
T-652	High	1750	2080-0-2080	450						550	9A	41.75	
	Low	1500	1760-0-1760	450									
T-651	High	1750	2080-0-2080	300						350	9A	33.00	
	Low	1500	1760-0-1760	300									
T-653		2000	2360-0-2360	300						350	9A	35.25	
T-663		2000	2360-0-2360	600						700	10A	66.00	
T-673		3000/2500	3400/2840-0-2840/3400	350						450	10A	70.00	

All power transformers are designed for 115 volt, 50 to 60 cycle operation. For 230 volt 60 cycle operation add 25% to list prices. For 115 volt 25 cycle operation add 60% to list prices. For 230 volt 25 cycle operation add 100% to list prices. Case sizes for 25 cycle application are different than those specified for standard 115 volt 50 to 60 cycle operation.

FILTER REACTORS

Type No.	Inductance Henries	Max. M.A.	D.C. Resistance	Insulation Test	Case No.	List Price
T-155	290	10	4700	1000 V.	2A	\$3.25
T-158	350—CT	10	10000	1000 V.	3A	3.50
T-156	30	25	800	1000 V.	1A	2.50
T-157	20	50	200	1000 V.	1A	2.25
T-153	30	90	350	1000 V.	3A	3.25
T-154	15	165	210	1000 V.	3A	3.50
T-151	10	250	100	1000 V.	4A	5.50
T-152	10	200	100	1000 V.	3A	4.00
T-164	14	250	135	1500 V.	5A	7.75
T-166	11	300	125	1500 V.	5A	7.75
T-159	12	500	77	1500 V.	6A	9.75
T-165	10	150	275	3000 V.	3A	4.00
T-168	13	250	125	3000 V.	5A	7.75
T-160	11	300	120	3000 V.	5A	8.75
T-167	11	400	80	3000 V.	6A	10.25
T-175	10	200	140	5000 V.	4A	5.50
T-176	10	300	110	5000 V.	5A	7.75
T-178	10	400	90	5000 V.	6A	11.00
T-177	12	500	95	5000 V.	7A	16.50
T-161	10	600	50	5000 V.	7A	16.50
T-179	20	400	110	7000 V.	8A	25.00

SWINGING REACTORS

Type No.	Inductance Henries	Max. M.A.	D.C. Resistance	Insulation Test	Case No.	List Price
T-517	15-45	90-20	350	1000 V.	3A	\$3.25
T-515	10-25	165-30	210	1000 V.	3A	3.50
T-506	5-20	200-30	100	1000 V.	3A	4.00
T-501	5-15	250-30	100	1000 V.	4A	5.50
T-507	7-25	250-50	135	1500 V.	5A	7.75
T-510	6-19	300-30	125	1500 V.	5A	7.75
T-502	6-18	500-50	77	1500 V.	6A	9.75
T-511	5-20	170-20	275	3000 V.	3A	4.00
T-508	7-26	250-50	125	3000 V.	5A	7.75
T-514	5-20	300-50	120	3000 V.	5A	8.75
T-516	5-20	400-50	80	3000 V.	6A	10.25
T-509	6-19	200-30	140	5000 V.	4A	5.50
T-512	5-15	300-30	110	5000 V.	5A	7.75
T-513	5-18	400-50	90	5000 V.	6A	11.00
T-521	6-21	500-60	95	5000 V.	7A	16.50
T-505	5-17	600-60	50	5000 V.	7A	16.50
T-522	5-20	400-50	110	7000 V.	8A	25.00



KENYON TRANSFORMERS



FILAMENT TRANSFORMERS — FOUR WINDINGS

T-373	2.5 V.-5 A. CT. 750 V. Test	5 V.-3 A. 750 V. Test	7.5 V.-3.25 A. CT. 3000 V. Test	7.5 V.-8 A. CT. 3000 V. Test	5A	\$8.75
T-374	2.5 V.-5 A. CT. 750 V. Test	5 V.-3 A. 750 V. Test	6.3 V.-3 A. CT. 3000 V. Test	7.5 V.-8 A. CT. 3000 V. Test	5A	8.75
T-370	6.3 V.-3 A. CT. 750 V. Test	6.3 V.-3 A. CT. 750 V. Test	2.5 V.-4 A. CT. 750 V. Test	5 V.-3 A. 750 V. Test	4A	7.00
T-371	5 V.-3 A. 750 V. Test	6.3 V.-3 A. CT. 750 V. Test	6.3 V.-3 A. CT. 750 V. Test	7.5 V.-8 A. CT. 2500 V. Test	5A	8.75
T-372	5 V.-3 A. 750 V. Test	5 V.-3 A. CT. 750 V. Test	6.3 V.-3 A. CT. 750 V. Test	7.5 V.-4 A. CT. 2000 V. Test	5A	8.75
T-367	6.3 V.-5 A. CT. 2000 V. Test	6.3 V.-5 A. CT. 2000 V. Test	5 V.-6 A. CT. 2000 V. Test	5 V.-3 A. CT. 2000 V. Test	5A	8.75

FILAMENT TRANSFORMERS — FIVE WINDINGS

T-377	5 V.-3 A. 2000 V. Test	5 V.-6 A. 2000 V. Test	6.3 V.-1 A. CT. 2000 V. Test	6.3 V.-5 A. CT. 2000 V. Test	6.3 V.-5 A. CT. 2000 V. Test	5A	9.75
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CATH-O-DRIVE TRANSFORMERS

Type	D. C.	Audio Tubes	Case No.	List Price
T-471	200 MA	SINGLE 6F6	2A	\$4.00
T-472	300 MA	PP 6V6's or 2A3's	3A	5.00
T-473	450 MA	PP 6L6's AB or AB2	4A	6.00
T-474	500 MA	UNIVERSAL	6A	12.00

*Handles 120 Watts Audio.
Secondary Impedances range from 40 to 3000 ohms in convenient taps.

LABORATORY STANDARD AUDIO TRANSFORMERS

We invite you to investigate our laboratory standard units to convince yourself that our claims are modest indeed. These units can be found in the finest broadcast stations of the world. Ask the man who uses Kenyon and you will then understand the phenomenal success of these thoroughly dependable high-fidelity transformers.

PORTABLE BROADCAST TRANSFORMERS

Designated by letter "P"—case size of all units—IA—see "T" line case size chart.

LINE TO LINE TRANSFORMERS

Type	Application	Response ±1 db.	Impedance Ratio	Level	List Price
P-100	Line to line	40-12,000	Multiple line to multiple line	+20	\$10.00
P-101	Dynamic microphone or low impedance pickup to line	40-12,000	10/20/30 ohm line to multiple line	+20	10.00

LINE TO GRID TRANSFORMERS

P-200	Line to grid	40-12,000	Multiple line to 80,000 ohms (a)	+20	10.00
P-202	Line to grid	±2 db 30-15,000	Multiple line to 50,000 ohms (a)	+20	12.00
P-203	Line to PP grids	±2 db 30-15,000	Multiple line to 100,000 ohms (a)	+20	16.00
P-201	Dynamic microphone or low impedance pickup to grid	40-12,000	10/20/30 ohm line to 80,000 ohms (a)	+20	10.00

INTERSTAGE TRANSFORMERS

P-300	Single plate to single grid	40-12,000	1:2 overall	6 MA	8.00
P-301	Single plate to push pull grids	40-12,000	1:2 overall	6 MA	10.00

OUTPUT TRANSFORMERS

P-400	Single plate to line	40-12,000	Plate (c) to multiple line	+20	10.00
P-401	Push pull plates to line	40-12,000	Plates (c) to multiple line	+20	10.00

AUDIO CHOKES

Type	Application	Rated D.C.	Inductance	D.C. Resistance	List Price
P-500	Parallel feed audio choke (split winding)	3 MA	300 Hys.	6000 Ohms	8.00
P-501	Parallel feed or output audio choke (split winding)	10 MA	40 Hys.	800 Ohms	8.00

(a) Split winding—impedance refers to entire secondary.

(c) "Plate" refers to such tubes as 6C5, 56, 30, 846, etc., having an A.C. plate resistance of the order of 10,000 ohms.



BAND PASS FILTER T-800*

Designed to help put signals through tough QRM by eliminating those frequencies unnecessary for amateur communication purposes.

Primary impedance VC/500/10,000 ohms. Secondary impedance VC/500/10,000 ohms. Max. level, 6 watts. **List Price \$15.00.**

*Can be used as an interstage, input or output transformer. Also from VC to VC for receiving purposes.



KENYON TRANSFORMERS



Patents Applied For
Illustration Actual Size

Tube Base... AUDIO UNITS Standard and Submersion Proof Types

Here is really the latest in transformer design. Smart in appearance, quickly installed, compact in space, wide in application, these new Kenyon "A" Line Units will solve many a manufacturing and P. A. problem. Designed for use where space is at a premium and where weight must be kept at a minimum without making any sacrifice in performance characteristics.

"A" Line transformers are excellent for aircraft, marine, portable broadcast, geophysical and undersea operation. They cut space and assembly time in half. Merely punch a 1 1/8" round hole, fasten the 11-prong socket in place and plug any of the "A" Line Units in position. They fit so snugly that it requires considerable effort to remove them. ALL "A" Line transformers have the minimum hum pick-up axis parallel to the locating pin on the octal base in order that they may be oriented for minimum hum pick-up. All units are supplied with Kenyon Mounting Sockets.

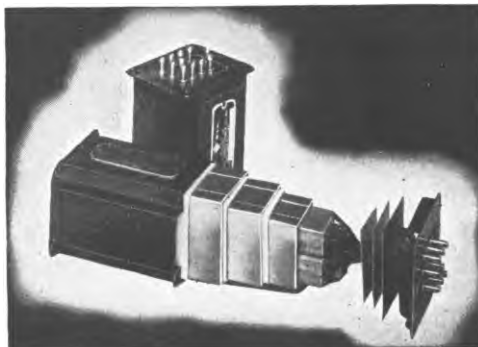
CASE DIMENSIONS

All "A" Line units are housed in a round case 2-3/16" high and 1 1/2" in diameter. Illustration shown on this page is ACTUAL SIZE.

Type No.	Primary Impedance	Secondary Impedance	Stand. Type List Price	Sub. Proof Type List Price
LINE TRANSFORMER				
A-10	500-333-250 200-125-50 ohms	500/125 ohms *	11.00	14.00
CRYSTAL MIKE TO LINE				
A-15	100,000	500-333-250 200-125-50 ohms	12.00	15.00
LOW IMPEDANCE SOURCE TO GRID				
A-20	500-333-250- 200-125-50 ohms	50,000 ohms * single grid	11.50	14.50
A-21	30/120 ohms	50,000 ohms * single grid	11.50	14.50
A-22	500-333-250- 200-125-50 ohms	100,000 ohms * P. P. grids	12.00	15.00
A-23	200/50	Single grid † 50:1 ratio 500,000 ohms	12.00	15.00
A-24	200/50	P. P. grids † 50:1 ratio 500,000 ohms	12.00	15.00
INTERSTAGE TRANSFORMERS				
A-30	8,000-15,000 ohm plate	1 grid * 1:2 ratio overall	11.00	14.00
A-31	8,000-15,000 ohm plate	2 grids * 1:2.3 ratio overall	11.00	14.00
A-32	8,000-15,000 ohm plate	1:12.5 ratio † overall	12.00	15.00
A-33	8,000-15,000 ohm plate	2 grids † 1:12.5 overall	12.00	15.00
A-34	Hi-mu triode or pentode plate	1 grid † 1:2 ratio overall	11.00	14.00
A-35	Hi-mu triode or pentode plate	2 grids † 1:2.3 ratio overall	11.00	14.00
A-36	1G4G, 1H4G, 19 30 plate	P. P. class B † 1G6G, 1H6G 19, 30 grids	11.00	14.00

Type No.	Primary Impedance	Secondary Impedance	Stand. Type List Price	Sub. Proof Type List Price
OUTPUT TRANSFORMERS				
A-40	8,000-15,000 ohm plate	500-333-250- * 200-125-50	11.00	14.00
A-41	P. P. 8,000-15,000 ohm plate	500-333-250- * 200-125-50	11.00	14.00
A-42	1-1A5G, 1-1E7G 1F5G	5000-3330- † 2500-2000-		
	2-1F5G's (AB) (25,000 ohms C.T.)	1250-500	10.00	13.00
A-43	1-1C5G, 1-1Q5GT, 1-1S4, 1-1G5G	5000-3330- † 2500-2000-	10.00	13.00
	(12,000 ohms C.T.)	1250-500		
A-44	1-1D8GT (Pent sec) 1-1G6G (cl B) 1-1T5 1-1F5G (cl B)	5000-3330- † 2500-2000-	10.00	13.00
	8,500 ohms C.T. 20 M.A. MAX. D. C.	1250-500		
CHOKES				
A-50	300 hys. 2 MA - 6000 ohms 75 hys. 4 MA - 1500 ohms 6/12 M.A. Max. D. C.		10.00	13.00
A-51	60 hys. 7.5 MA - 2500 ohms 15 hys. 15 MA - 625 ohms 15/30 MA. MAX. D. C.		10.00	13.00

* ±2 db 30 to 20,000 cycles (No. D. C. in windings)
† Voice frequencies
All others ±2 db 30 to 15,000 cycles
ALL HUM-BUCKING CONSTRUCTION



TELESCOPIC SHIELDED HUMBUCKING TRANSFORMERS

TYPE P-202

Designed for a multiple line primary of 500/333/250/200/125/50 ohms and secondary of 30,000 ohms (single class A grid) having a frequency response of plus or minus 2 DB 30 to 15,000 cycles, shielding, 90 db mounted in four high permeability alloy annealed steel cases. List price\$12.00

TYPE P-203

Has a primary and frequency response the same as type P-202 above. Secondary: 100,000 ohms to PP grids. List price.....\$16.00

TYPE T-6

Designed with a multiple line primary of 500/333/250/200/125/50 ohms and secondary of 20,000 ohms (single Class A grid). Frequency response plus or minus 8 db. 30 to 10,000 cycles. Shielding, 50 db. Mounted in 2 high permeability annealed alloy steel cases and plain steel outer case. These units are designed for use in low level input circuits where hum-pickup must be kept to absolute minimum. List price\$7.75

STANCOR REPLACEMENT TRANSFORMERS

THE ONLY 100% COMPLETE TRANSFORMER SERVICE

POWER TRANSFORMERS — NEW UNIVERSAL TYPE

These units will service the majority of radios in use today. Four black-enameled brackets furnished with each transformer to permit choice of five mounting positions—horizontal, vertical, four hole half shell, two hole half shell or Underwriter's type. Electro-statically shielded—R.M.A. color coded flexible leads.

Stancor Number	No. of Tubes	CT Plate Volts	Fil. No. 1 MA. V.	Fil. No. 2 V. A.	Fil. No. 3 V. A.	Mtg. Type	Mtg. Area	Mtg. Ctrs.	Lbs. Wgt.	List Price				
Universal Type — 2.5 Volt														
P-6001	4-5	650	40	5.0-C.T.	2.0	2.5-C.T.	4.0	M	2 1/2" x 3"	2" x 2 1/2"	3.3	\$2.50		
P-6002	5-6	700	50	5.0-C.T.	2.0	2.5-C.T.	7.25	M	2 1/2" x 3"	2" x 2 1/2"	3.3	3.25		
P-6003	6-7	700	70	5.0-C.T.	3.0	2.5-C.T.	9.0	M	2 1/2" x 3 3/4"	2 1/4" x 2 1/2"	3.8	3.50		
P-6004	8-9	700	90	5.0-C.T.	3.0	2.5-C.T.	12.5	M	3 1/8" x 3 3/4"	2 1/2" x 3 1/8"	5.4	4.25		
P-6009	6-7	550	70	5.0-C.T.	3.0	5.0-C.T.	0.5	2.5-C.T.	10.5	M	2 1/2" x 3 3/8"	2 1/4" x 2 1/8"	4.2	4.00
P-6005	6-7	700	70	5.0-C.T.	3.0	2.5-C.T.	9.0	2.5-C.T.	3.5	M	2 1/2" x 3 3/8"	2 1/4" x 2 1/8"	5.4	4.00
P-6006	11-13	700	120	5.0-C.T.	3.0	2.5-C.T.	12.5	2.5-C.T.	3.5	M	3 1/8" x 3 3/4"	2 1/2" x 3 1/8"	5.9	5.25
P-6007	10-12	800	110	5.0-C.T.	3.0	2.5-C.T.	15.0	2.5-C.T.	3.5	M	3 1/8" x 3 3/4"	2 1/2" x 3 1/8"	6.3	5.50

Universal Type — 6.3 Volt												
P-6289	5-6	420	40	5.0-C.T.	2.0	6.3-C.T.	2.0	M	2 1/2" x 3"	2" x 2 1/2"	3.1	2.60
P-6297	4-5	480	40	5.0-C.T.	2.0	6.3-C.T.	2.0	M	2 1/2" x 3"	2" x 2 1/2"	3.2	2.35
P-6010	4-5	650	40	5.0-C.T.	3.0	6.3-C.T.	2.0	M	2 1/2" x 3"	2" x 2 1/2"	3.3	2.50
P-6119	6-7	600	55	5.0-C.T.	2.0	6.3-C.T.	2.7	M	2 1/2" x 3"	2" x 2 1/2"	3.5	2.80
P-6011	6-7	700	70	5.0-C.T.	3.0	6.3-C.T.	2.5	M	2 1/2" x 3"	2" x 2 1/2"	3.3	3.25
P-6120	7-9	630	70	5.0-C.T.	3.0	6.3-C.T.	3.5	M	2 1/2" x 3 3/8"	2 1/4" x 2 1/8"	5.2	3.50
P-6012	8-9	700	90	5.0-C.T.	3.0	6.3-C.T.	3.5	M	2 1/2" x 3 3/8"	2 1/4" x 2 1/8"	5.2	4.00
P-6013	11-13	700	120	5.0-C.T.	3.0	6.3-C.T.	4.7	M	3 1/8" x 3 3/4"	2 1/2" x 3 1/8"	5.3	4.25
P-6014	13-15	750	150	5.0-C.T.	3.0	6.3-C.T.	5.0	M	3 1/8" x 3 3/4"	2 1/2" x 3 1/8"	5.8	5.75
P-6165	14-16	800	200	5.0-C.T.	4.0	6.3-C.T.	5.5	M	3 3/4" x 4 1/2"	3" x 3 3/4"	6.5	6.75

Universal Type — 6.3 and 2.5 Volt Combination														
P-6293	6-7	600	60	5.0-C.T.	3.0	6.3-C.T.	2.5	2.5-C.T.	7.5	M	2 1/2" x 3 3/8"	2 1/4" x 2 1/8"	4.0	4.00
P-6294	8-9	750	85	5.0-C.T.	3.0	2.5-C.T.	9.0	6.3-5.0, 2.5-C.T.	3.5	M	2 1/2" x 3 3/8"	2 1/4" x 2 1/8"	4.0	4.75
P-6295	8-9	700	90	5.0-C.T.	3.0	6.3, 2.5 C.T.	3.5	2.5-C.T.	9.0	M	3 1/8" x 3 3/4"	2 1/2" x 3 1/8"	5.7	4.75
P-6296†	11-13	750	125	5.0-C.T.	3.0	2.5-C.T.	12.0	6.3, 5.0, 2.5-C.T.	4.0	M	3 1/8" x 3 3/4"	2 1/2" x 3 1/8"	5.9	6.00
P-6008	14-16	750	180	5.0-C.T.	3.0	6.3-C.T.	3.3	2.5-C.T.	6.0	M	3 1/8" x 4 1/8"	2 3/4" x 3 1/8"	6.5	6.25

†P-6296 also has an additional 2.5 V. at 1.75 A.C.T. winding.

UNIVERSAL POWER TRANSFORMERS With Motor Tuning Windings													
P-6290	11-13	700	120	5.0-C.T.	3.0	6.3	4.7	50-24-18	M	3 3/4" x 3 1/8"	3 1/2" x 2 1/2"	5.4	5.50
P-6291	13-15	750	150	5.0-C.T.	3.0	6.3	5	50-24-18	M	3 3/4" x 3 1/8"	3 1/2" x 2 1/2"	5.9	6.25
P-6292	800	200	5.0-C.T.	3.0	6.3	5.2	50-24-18	M	4 1/2" x 3 3/4"	3 3/4" x 3"	7.8	8.00	

Underwriters' type mounting studs, tapped to fit the bolts on these transformers. Catalog No. 2053. List price \$0.25 per set.

POWER TRANSFORMERS (Fully Cased)

Stancor Number	No. of Tubes	CT Plate Volts	Fil. No. 1 MA. V.	Fil. No. 2 V. A.	Fil. No. 3 V. A.	Mtg. Type	Mtg. Area	Mtg. Ctrs.	Lbs. Wgt.	List Price				
Fully Shielded With Leads — 2.5 Volts														
P-4042	6-7	700	70	5.0	3.0	2.5-C.T.	3.5	2.5	7.5	C	3 1/4" x 3"	2 1/2" x 1 1/2"	3.7	\$4.50
P-4043	8-9	700	90	5.0	3.0	2.5-C.T.	3.5	2.5	9.0	C	3 1/2" x 3 3/8"	2 1/4" x 2 1/2"	4.5	5.25
P-4044	10-12	700	110	5.0	3.0	2.5-C.T.	3.5	2.5	14.0	C	3 1/2" x 3 3/8"	2 1/4" x 2 1/2"	4.7	6.10
Fully Shielded With Leads — 6.3 Volts														
P-4076	4-5	650	40	5.0	2.0	6.3-C.T.	2.0			C	2 1/2" x 2 1/2"	2 3/8" x 1 3/8"	2.7	3.50
P-4077	5-6	700	50	5.0	2.0	6.3-C.T.	2.6			C	3" x 2 3/4"	2 1/4" x 1 3/8"	3.2	3.75
P-4078	6-7	700	70	5.0	3.0	6.3-C.T.	3.0			C	3 1/4" x 3"	2 1/2" x 1 3/8"	4.0	4.50
P-4079	8-9	700	90	5.0	3.0	6.3-C.T.	3.5			C	3 1/8" x 3 3/8"	2 3/4" x 2 1/4"	4.9	4.90
P-6143	8-9	880	130	5.0	3.0	6.3-C.T.	3.5			C	3 3/8" x 4"	2 3/4" x 3"	5.0	6.25
P-4080	10-12	700	110	5.0	3.0	6.3-C.T.	4.5			C	3 1/8" x 3 3/8"	3" x 2 1/4"	5.4	5.75
P-4081	11-14	800	160	5.0	3.0	6.3-C.T.	4.5			C	3 3/8" x 3 3/8"	3" x 2 1/2"	5.0	6.70
P-5059	11-14	675	200	5.0	3.0	6.3-C.T.	5.0			C	3 3/8" x 4 3/8"	3" x 3 3/8"	10.0	7.25
P-4004*	11-14	800	175	5.0	3.0	6.3-C.T.	2.5	6.3-C.T.	2.5	C	3 3/8" x 4 1/8"	3" x 2 3/4"	11.0	8.50

Fully Shielded With Leads — 2.5 and 6.3 or 7.5 Volt Combination

P-4045	4-5	600	40	5.0	2.0	2.5-C.T.	5.25	6.3	2.0	C	2 5/8" x 2 3/8"	2 1/4" x 1 3/4"	2.7	3.40
P-4046	5-6	700	50	5.0	2.0	2.5-C.T.	7.25	6.3	2.6	C	3" x 3"	2 1/4" x 2"	3.2	4.00
P-4047	6-7	700	70	5.0	3.0	2.5-C.T.	9.0	6.3	3.0	C	3 1/4" x 3"	2 1/2" x 1 3/8"	3.7	4.60
P-4048	8-9	700	90	5.0	3.0	2.5-C.T.	10.0	6.3	3.5	C	3 3/8" x 3 1/2"	2 3/4" x 2 3/8"	5.0	5.00
P-4049	10-12	700	110	5.0	3.0	2.5-C.T.	14.0	6.3	4.5	C	3 3/8" x 3 3/8"	3" x 2 3/8"	5.3	5.70
P-4050*	11-14	800	160	5.0	3.0	2.5-C.T.	14.0	6.3	4.5	C	3 3/8" x 3 3/4"	3" x 2 3/4"	6.2	6.75
P-3005†	10-12	720	125	5.0	3.0	2.5-C.T.	10.0	6.3-C.T.	4.0	C	3 3/8" x 3 3/8"	3" x 2 3/4"	5.5	5.65
P-6169	1200	200	5.0	3.0	2.5-C.T.	10.0	7.5-C.T.	3.0	C	3 3/8" x 4 1/8"	3" x 3 1/8"	12.0	7.25	
P-6170	1200	200	5.0	3.0	6.3-C.T.	3.0	6.3-C.T.	4.0	C	3 3/8" x 4 3/8"	3" x 3 3/8"	13.3	7.25	

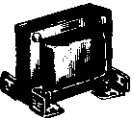
*Has 80 V. bias tap and extra 2.5 V. 1.75A filament. †Has 80 V. bias tap and extra 5 V. 2A filament. All of the above power transformers are for operation on 115 volts, 50-60 cycles. Available on order for 220-230 volts, increase list price 25%; for 25 cycles, 60%; for 220-230 volts 25 cycles, 75%.



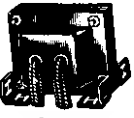
TYPE "M" Mounted Vertically



TYPE "M" Mounted Half Shell



TYPE "M" Mounted Horizontally



TYPE "M"

TYPE "M" May Also Be Mounted Underwriters



TYPE "M" Two Hole Mounting



Write for Your Free Stancor Service Guide





AUDIO TRANSFORMERS

PLATE TO GRID INTERSTAGE TRANSFORMERS

Stancor Number	From	To	Primary Impedance	Secondary Impedance	Turns Ratio	D.C. Primary M.A.	Type Mounting	Mounting Dimensions			Weight in Carton	List Price
								H	W	D		
A-52	10,000 ohm plate	Grid	10,000	40,000	2:1	10	A	1 3/8"	2 3/8"	1 1/2"	0.5	\$1.15
A-4205	20,000 ohm plate	Grid	20,000	115,000	2.4:1	15	C	3 1/8"	2 3/8"	2 3/8"	2.5	4.25
A-53	10,000 ohm plate	Grid	10,000	90,000	3:1	10	A	1 3/8"	2 3/8"	1 1/2"	.5	1.15
A-63	10,000 ohm plate	Grid	10,000	90,000	3:1	10	A	1 5/8"	2 13/16"	1 1/2"	.75	1.35
A-73	10,000 ohm plate	Grid	10,000	90,000	3:1	10	A	2"	3 3/16"	1 5/8"	1.0	1.70



TYPE "A"



TYPE "E"



TYPE "L"

PUSH-PULL INPUT TRANSFORMERS

Stancor Number	Application	From	To	Primary Impedance	Secondary Impedance	Turns Ratio	D.C. Primary M.A.	Type Mounting	H	W	D	Weight in Carton	List Price
A-2132	Screen Grid Tube P.P. Grids	10,000	10,000	10,000	10,000	1:1	10	S	3"	4"	2 1/16"	2.4	\$3.25
A-52-C	10,000 ohm plate P.P. Grids	10,000	40,000	10,000	40,000	2:1	10	A	1 3/8"	2 3/8"	1 1/2"	0.5	1.25
A-62-C	10,000 ohm plate P.P. Grids	10,000	40,000	10,000	40,000	2:1	10	A	1 5/8"	2 13/16"	1 1/2"	0.75	1.45
A-4741	10,000 ohm plate P.P. Grids	10,000	40,000	10,000	40,000	2:1	10	S	2"	1 5/8"	1 5/8"	0.8	1.50
A-53-C	10,000 ohm plate P.P. Grids	10,000	90,000	10,000	90,000	3:1	10	A	1 3/8"	2 3/8"	1 1/2"	.5	1.25
A-63-C	10,000 ohm plate P.P. Grids	10,000	90,000	10,000	90,000	3:1	10	A	1 5/8"	2 13/16"	1 1/2"	.75	1.45
A-73-C	10,000 ohm plate P.P. Grids	10,000	90,000	10,000	90,000	3:1	10	A	2"	3 3/16"	1 5/8"	1.0	1.80
A-4155	10,000 ohm plate P.P. Grids	10,000	90,000	10,000	90,000	3:1	10	L	2 1/4"	2 3/16"	2 3/8"	1.2	1.85
A-4719	10,000 ohm plate P.P. Grids	10,000	90,000	10,000	90,000	3:1	10	E	2 3/8"	2 5/8"	2 1/8"	1.5	2.90
A-4750	10,000 ohm plate P.P. Grids	10,000	90,000	10,000	90,000	3:1	10	S	2 1/4"	2 7/8"	1 5/8"	1.0	1.80
A-4740	10,000 ohm plate P.P. Grids	10,000	90,000	10,000	90,000	3:1	10	S	2"	2 3/8"	1 1/2"	0.75	1.45
A-83-C	10,000 ohm plate P.P. Grids	10,000	90,000	10,000	90,000	3:1	10	A	2 1/4"	3 11/16"	1 7/8"	1.5	2.75
A-4206*	20,000 ohm plate P.P. Grids	20,000	180,000	20,000	180,000	3:1	15	C	3 1/8"	2 5/8"	2 5/8"	2.5	3.75
A-64-C	10,000 ohm plate P.P. Grids	10,000	160,000	10,000	160,000	4:1	10	S	1 5/8"	2 13/16"	1 1/2"	0.5	1.45

PUSH-PULL INTERSTAGE TRANSFORMERS

Stancor Number	Application	From	To	Primary Impedance	Secondary Impedance	Turns Ratio	D.C. Primary M.A.	Type Mounting	H	W	D	Weight in Carton	List Price
A-4711	P.P. Plates	P.P. Grids	20,000	20,000	20,000	1:1	10	A	1 5/8"	2 13/16"	1 1/2"	.8	\$1.75
A-4772*	P.P. Plates	P.P. Grids	20,000	45,000	45,000	1.5:1	10	S	3 1/8"	2 5/8"	2 5/8"	2.2	3.00
A-4155	P.P. Plates	P.P. Grids	10,000	90,000	90,000	3:1	10	L	2 1/4"	2 3/16"	2 5/8"	1.2	1.85
A-4208*	P.P. Plates	P.P. Grids	25,000	13,000	13,000	1:1.39	15	C	3 1/8"	2 5/8"	2 5/8"	2.5	3.45

UNIVERSAL INTERSTAGE TRANSFORMERS

(Split Secondaries)

May be used as plate to grid; push-pull input or push-pull interstage replacement transformers. Have 3:1 over all ratio, however primary is center-tapped and secondary has split winding thus permitting ratios of 1:1, 3:1 and 6:1. Transformers may be used in either step-up or step-down applications.

Stancor Number	Application	Turns Ratio	D.C. Pri. M.A.	Type Mtg.	Dimensions			Mounting Centers	Weight in Carton	List Price
					H	W	D			
A-4773*	Universal	3:1	10	E	2 3/8"	2"	2 1/2"	2 3/8"	1.5	\$2.25
A-4774*	Universal	3:1	10	S	2 1/4"	2 3/8"	2 1/4"	2 3/8"	1.5	1.90
A-4775*	Universal	3:1	10	S	2 3/8"	3 1/4"	2 3/8"	2 3/4"	1.8	2.40

*Split Secondary.

DRIVER TRANSFORMERS

Stancor Number	From	To	Class	Primary Impedance	Secondary Impedance	One Half Turns Ratio	D.C. Primary M.A.	Type Mounting	Mounting Dimensions			Wgt. in Ctn.	List Price
									H	W	D		
A-4722	1-42, 47, 2A5, 6K6	P.P. 42, 2A5, 6F6, 6K6	AB	10,000	10,000	1:1	30	E	2 1/4"	2 3/4"	2 3/8"	1.5	\$2.25
A-4752†	1-6G6G, 6F6, 42, 2A5 as Triodes	P.P. Grids 6V6G, 6Y6G, 6F6, 6L6, 6Z7G	AB	10,000	2,500, 4,400, 10,000	2:1, 1.5:1, 1:1	35	S	2 1/4"	2 3/8"	1 3/8"	1.5	2.00
A-4713	1-30, 46, 45, 2A5, 6F6, 1H4-G etc.	P.P. Grids 19, 79, 2A5, 6A6, 6F6, 1J6-G	B	10,000	2,500	2:1	30	A	1 5/8"	2 13/16"	1 1/2"	.7	1.40
A-4292	1-6C5, 30, 49	1-1J6-G, 19, 2-30, 2-49	B	10,000	1,600	2.5:1	10	A	1 5/8"	2 13/16"	1 1/2"	0.7	1.50
A-4734	1-30, 2A5, 6A6, 1G5-G, 6F6, 6K6	P.P. Grids 19, 2A5, 6A6, 1J6-G	B	10,000	1,600	2.5:1	15	A	2 1/4"	2 7/8"	1 3/8"	1.4	1.75
A-4401	1-27, 30, 37, 56, 76, 6C5, 1H4-G, 6J5-G	1-19, 79, 1J6-G	B	10,000	1,400	2.66:1	15	J	2 3/8"	2 3/4"	2 1/4"	1.3	1.85
A-4723	1-30, 2A5, 6A6, 1G5-G, 6K6 etc.	P.P. Grids 19, 79, 2A5, 6A6, 6F6, 1J6-G, 6K6	B	10,000	1,100	3:1	30	A	1 5/8"	2 13/16"	1 1/2"	.7	1.40
A-4712	P.P. 27, 30, 37, 56, 76, 6C5, 1H4-G, 6J5-G	P.P. 19, 53, 6A6, 1J6-G, 6N7	B	20,000	2,200	3:1	10	A	1 5/8"	2 13/16"	1 1/2"	.7	1.40

†May be used from P.P. primary with ratio of 2:1.

STONE CONTROL UNIT

The necessary components for a dual tone control circuit to provide both bass and treble attenuation when used in conjunction with two dual 250,000 ohm potentiometers. Contained in Hi-Fi type W-1 cast case for shielding against hum pickup and provided with 12" Flexible Coded Leads for direct connection in the circuit.

STANCOR No. C-2332..... List \$5.00



OUTPUT TRANSFORMERS



OUTPUT TRANSFORMERS TO LINE AND VOICE COIL

Stancor Number	Output Tubes	Class	Impedance in Ohms		D.C. Pri.	Max. Audio Watts	Type Mounting	Dimensions			Wt. in Carton	List Price
			Primary	Secondary				H	W	D		
A-3865	SGL, 48, 25B6-G, 25L6, 50L6-GT	A	1,500	2, 4, 6	55	5	A	1 3/8"	2 3/8"	1 1/2"	0.5	\$1.25
A-3876	SGL, 2A3, 6A3, 6B4-G, 6W6-GT, 6Y6-G, 25-ACS-GT, 25B5, 25B6-G, 25L6, 35A5, 35L6, 50L6-GT	A	2,000	4	60	5	A	1 3/8"	2 3/8"	1 1/8"	0.5	.90
A-3825	SGL, 2A3, 6A3, 6B4-G, 6L6, 6Y6-G, 25ACS-GT, 25B5, 25L6, 25N-6-G, 35N6-G, 35L6-GT, 50L6-GT, 6W6-GT	A	2,500	1, 2, 4	75	8	Q	1 7/8"	3 1/4"	1 3/4"	1.0	1.60
A-3306	P.P. PAR. 48, 25L6 P.P. PAR. 2A3, 45	A AB	2,500	4, 8, 15, 500	100	25	C	3 1/2"	2 13/16"	3 1/8"	3.6	6.00
A-3301	P.P. 2A3, 6A3, 6B4-G P.P. 48, 25L6	AB A	3,000	4, 8, 15, 500	55	30	C	3 1/2"	2 13/16"	3 1/8"	3.7	4.00
A-3802	P.P. PAR. 6L6 P.P. 45, 6L6	AB1 AB2	3,300 3,800	4, 8, 250, 500	250	75	C	4 5/8"	3 7/8"	3 7/8"	8.3	6.00
A-2203	SGL, 12A5, 25A6, 31, 43, 45, 71, 48	A	4,000	8	40	5	A	1 5/8"	2 3/4"	1 5/8"	0.7	1.20
A-5528	P.P. 6Y6-G, 25L6	A	4,000	4, 8, 15, 500	65	8	C	3 1/8"	2 3/8"	2 3/8"	2.4	2.75
A-3851	P.P. 6L6*	AB1	4,400	4, 8, 15, 250, 500	70	30	C	3 1/2"	2 13/16"	3 1/8"	3.6	4.00
A-3877	SGL, 2B6, 6V6, 7C5, 12A, 25A6, 31, 43, 59	A	5,000	4	40	5	A	1 3/16"	2 3/8"	1 1/16"	0.5	.90
A-3872	P.P. 6L6 P.P. 2A3, 6A3, 45	A AB	5,000	4, 8	150	18	E	2 3/8"	2 3/4"	2 1/8"	1.8	2.80
A-3310	SGL, 45, 2B6, 6L6, 6V6, 25A6, 25A7-G	A	5,000	4, 8, 15, 500	55	20	C	3 1/8"	2 5/8"	2 5/8"	2.5	3.70
A-3800	P.P. 6L6 P.P. 2A3, 6A3, 45	A AB	5,000	4, 8, 15, 250, 500	80	30	C	3 1/2"	2 13/16"	3 1/8"	3.7	4.35
A-3308	P.P. 211, 845 P.P. 50, 2A3	AB AB2	5,000	4, 8, 15, 500	160	75	C	4 5/8"	3 7/8"	3 7/8"	8.0	6.30
A-3307	P.P. 2A5, 6F6, 42 P.P. 46, 59 P.P. PAR. 6A6, 6N7, 53	AB2 B B	6,000	4, 8, 15, 500	100	30	C	3 1/2"	2 13/16"	3 1/8"	3.6	4.00
A-3801	P.P. 6L6	AB1	6,600	4, 8, 15, 250, 500	150	35	C	3 7/8"	3 1/4"	3 3/8"	5.0	4.75
A-3822	SGL, 2A5, 6AC5-G, 6B5, 6F6, 6K6, 6N6-G, 7B5, 38, 41, 42, 47, 59, 89	A	7,000 10,000	0.7, 1, 1.4 2, 2.8, 4	45	5	Q	1 3/8"	2 3/8"	1 1/2"	0.5	1.15
A-3878	SGL, 2A5, 6AC5-G, 6B5, 7B5, 6F6, 6K6-G, 6N6-G, 20, 31, 33, 42	A	7,000	4	30	5	A	1 3/16"	2 3/8"	1 1/16"	0.5	.90
A-2313	SGL, 2A5, 6AC5-G, 6F6, 6K6, 6N6-G, 7B5, 33, 41, 42, 47, 59, 89	A	7,000	8	40	10	A	1 7/8"	3 1/4"	1 5/8"	1.1	1.40
A-3855	SGL, 2A5, 6AC5-G, 6F6, 6K6, 6N6-G, 7B5, 33, 41, 42, 47, 59, 89 P.P. 12A5, 45	A	7,000	10, 2,000	40	5	E	2 1/4"	2 3/4"	2 1/8"	1.7	2.50
A-2201	SGL, 6A6, 53 P.P. 25A6, 43, 45, 48, 71	A	8,000	6	40	10	A	1 7/8"	3 1/4"	1 5/8"	1.0	1.50
A-3824	SGL, 6A6, 6N7, 53 P.P. 46	B	8,000	1, 2, 4	75	8	Q	1 7/8"	3 1/4"	2"	1.4	1.90
A-3304	SGL, 6A4, 6B5, 6N6-G P.P. 6V6, 45 SGL, 6A6, 6N7, 53 P.P. 6AC5-G	A A B B	7,000 7,000 10,000 10,000	4, 8, 15, 500	60	25	C	3 1/8"	2 5/8"	2 5/8"	2.6	3.80
A-3879	SGL, 1J6-G, 3C5-GT, 6A4, 6G6-G, 6N7, 6R7, 12A, 38	A	10,000	4	30	5	A	1 3/16"	2 3/8"	1 1/16"	0.5	.90
A-3831	SGL, 1G6-G, 1J6-G, 19, 6E6 P.P. 30, 49	B B	10,000	2, 4, 8	40	5	A	1 1/2"	2 7/8"	1 3/16"	2.6	1.40
A-3839	SGL, 1G6-G, 1J6-G, 19 P.P. 1H4-G, 30, 49 SGL, 1G5, 3C5-GT, 6G6-G, 6R7, 12A	B B A	10,000	4, 8, 15, 2000	30	10	E	2 1/4"	2 3/4"	2 1/8"	1.7	2.50
A-3311	SGL, 6A6, 6N7, 53 P.P. 6B5, 6N6-G P.P. 6F6, 6V6	B B AB	10,000	4, 8, 15, 500	70	25	C	3 1/2"	2 13/16"	3 1/8"	3.8	4.25
A-3496	P.P. 2A5, 6F6, 6K6, 7B5, 33, 41, 42, 47, 49	A	14,000	3-5	45	5	A	1 3/8"	2 1/16"	1 5/16"	0.7	1.35
A-2312	PP. 2A5, 6F6, 6K6, 7B5, 33, 41, 42, 47, 49	A	14,000	4	40	10	A	1 7/8"	3 1/4"	1 5/8"	1.1	1.50
A-3303	SGL, 6Y7-G, 6Z7-G, 79 P.P. 2A5, 6F6, 6K6, 7B5, 41, 42, 47, 59, 89	B	14,000	4, 8, 15, 500	55	20	C	3 1/8"	2 5/8"	2 5/8"	2.6	3.50
A-3881	SGL, 1D8-GT, 1E7-G, 1F4, 1F5-G, 1J5-G, 1T5-GT, 6V7-G, 6Y7-G, 12A7	A	15,000	4	10	5	A	1 3/16"	2 3/8"	1 1/16"	0.5	.90
A-3848	SGL, 1D8-GT, 1F4, 1F5-G, 1J5-G, 1T5-GT, 6R7, 950	A	16,000	1, 2, 4	10	5	Q	1 3/8"	2 3/8"	1 1/2"	0.5	1.25
A-3857	SGL, 1A5-G, 1E7-G, 1N6-G, 6V7-G P.P. 1F4, 1F5-G, 1J5-G, 1T5-GT, 6G6-G, 12A7, 950	A	25,000 C.T.	4	10	5	A	1 3/8"	2 1/16"	1 1/16"	0.7	1.30



TYPE "Q"



TYPE "A"



TYPE "E"



TYPE "C"



TYPE "E"



TYPE "D"





AUDIO TRANSFORMERS

UNIVERSAL OUTPUT TRANSFORMERS

Stancor Number	Output Tubes	Impedance		D.C. Pri. M.A.	Max. Audio Watts	Type Mounting	Dimensions			Weight in Carton	List Price
		Primary	Sec.				H	W	D		
A-3856	Single or P.P. Plates	4,000, 7,000, 8,000, 10,000, 14,000 C.T.	1 to 30	35	4	Q	1 ⁵ / ₁₆ "	2 ³ / ₈ "	1 ¹ / ₁₆ "	0.6	\$1.30
A-3849	Universal Single Plate	1,500, 2,000, 4,000, 5,000, 7,000, 10,000	1 to 30	55	10	Q	1 ³ / ₈ "	2 ¹³ / ₁₆ "	1 ⁵ / ₈ "	0.7	1.50
A-3823	Single or P.P. Plates	4,000, 7,000, 8,000, 10,000, 14,000 C.T.	1 to 30	40	8	Q	1 ⁵ / ₈ "	2 ¹³ / ₁₆ "	1 ⁵ / ₈ "	0.7	1.50
A-3850	Single or P.P. Plates	4,000, 7,000, 8,000, 10,000, 14,000 C.T.	1 to 30	40	8	J	2"	2 ³ / ₈ "	1 ³ / ₈ "	0.7	1.50
A-3852	Single or P.P. Plates	4,000, 7,000, 8,000, 10,000, 14,000 C.T.	1 to 30	40	18	J	2 ¹ / ₄ "	2 ³ / ₄ "	2 ¹ / ₄ "	1.6	1.90
A-3830	Single or P.P. Plates	3,000, 5,000, 6,600, 7,000, 8,000, 10,000 C.T.	1 to 30	60	20	Q	2 ³ / ₈ "	4 ¹ / ₁₆ "	2 ¹ / ₄ "	3.0	2.75
A-3890	Single or P.P. Plates	4,000, 7,000, 8,000, 10,000, 14,000 C.T.	1 to 30	50	15	E	2 ¹ / ₄ "	2 ³ / ₄ "	2 ¹ / ₈ "	1.3	2.75
A-2855	Single or P.P. Plates	4,000, 7,000, 8,000, 10,000, 14,000 C.T.	1 to 30	50	15	L	2"	2 ⁵ / ₁₆ "	2 ¹ / ₁₆ "	1.3	1.75
A-3841	Universal Single Plate	2,500, 4,000, 5,000, 6,000, 7,000	500	60	10	J	2 ¹¹ / ₁₆ "	2 ¹¹ / ₁₆ "	2 ³ / ₈ "	1.8	3.50
A-3842	Universal P.P. Plates	8000, 10,000, 12,000, 14,000 C.T.	500	55	10	J	2 ¹¹ / ₁₆ "	2 ¹¹ / ₁₆ "	2 ³ / ₈ "	1.8	3.50



TYPE "A"



TYPE "B"



TYPE "C"



TYPE "E"



TYPE "D"



TYPE "D"



UNIVERSAL LINE TO VOICE COIL TRANSFORMERS

Stancor Number	For Coupling	Primary Impedance	Secondary Impedance	Max. Audio Watts	Type Mounting	Dimensions			Weight in Carton	List Price
						H	W	D		
A-3882	Line to voice coil	250, 333, 500	4, 8, 15	25	D	3 ¹ / ₈ "	2 ³ / ₈ "	3 ¹ / ₈ "	2.6	\$3.80
A-3883	Line to voice coil	500	4, 6, 8, 15	25	J	2 ¹ / ₄ "	1 ⁷ / ₈ "	1 ¹ / ₂ "	1.5	2.25
A-3820	Line to voice coil	500, 1000, 1500, 2000	4, 8, 15	40	D	4 ¹ / ₄ "	3 ¹ / ₂ "	3 ³ / ₈ "	5.8	5.80
A-3838	Line to speakers	500 (auto transformer)	250, 166, 125, 100, 84	30	B	3 ³ / ₈ "	2 ³ / ₈ "	2 ³ / ₄ "	2.6	3.00
A-3837	Line to voice coil. 1 to 6 can be paralleled across 500 ohm line	500, 1000, 1500, 2000, 2500, 3000	.06 to 8 ohm from primary of 500 ohms. .12 to 16 from 1000, etc.	15	J	2 ¹ / ₄ "	2 ⁷ / ₈ "	2 ¹ / ₂ "	2.0	3.00

MICROPHONE, PICKUP OR LINE TO GRID TRANSFORMERS

Stancor Number	From	To	Impedance		Ratio Overall	Type Mounting	Dimensions			Weight in Carton	List Price
			Pri.	Sec.			H	W	D		
A-4706	S.B. Microphone	Single Grid	100	60,000	1:24.6	A	1 ³ / ₈ "	2 ³ / ₈ "	1 ¹ / ₂ "	0.6	\$1.20
A-4708	D.B. Microphone	Single Grid	200 C.T.	57,000	1:17	J	2"	2 ¹ / ₂ "	1 ¹ / ₂ "	0.8	1.75
A-4727	D.B. Microphone	Single Grid	200 C.T.	100,000	1:22.2	E	2 ³ / ₈ "	2 ³ / ₄ "	2 ³ / ₈ "	1.8	2.75
A-4709	Dynamic or Pickup	Single Grid	4, 8, 15, 30	106,000	1:60	E	2 ³ / ₈ "	2 ³ / ₄ "	2 ¹ / ₈ "	1.8	2.80
A-4351	S.B. or D.B. Microphone or Line	Single Grid	50, 125, 200, 333, 500	89,000	1:13.3	E	2"	3 ⁵ / ₁₆ "	1 ⁵ / ₈ "	1.0	2.10
A-4408	S.B. or D.B. Microphone or Line	Single Grid	50, 125, 200, 333, 500	80,000	1:12.5	D	3 ¹ / ₈ "	2 ⁵ / ₈ "	3 ³ / ₈ "	2.6	4.40
A-4352	S.B. or D.B. Microphone or Line	P.P. Grids	50, 125, 200, 333, 500	89,000	1:13.3	Q	2"	3 ⁵ / ₁₆ "	1 ⁵ / ₈ "	1.0	2.20
A-4409	S.B. or D.B. Microphone or Line	P.P. Grids	50, 125, 200, 333, 500	157,000	1:17.7	D	3 ¹ / ₈ "	2 ⁵ / ₈ "	2 ⁵ / ₈ "	2.6	5.00
A-4705	S.B. Microphone	Single Grid	200 or 70	80,000	1:20	A	1 ³ / ₈ "	2 ³ / ₈ "	1 ³ / ₈ "	0.5	1.00
A-4729	1, 2, 3, or 4 Circuit Mixer	Single Grid	200, 400, 600, 800	100,000	1:11.2	E	2 ³ / ₈ "	2 ³ / ₄ "	2 ¹ / ₈ "	2.0	3.50

TUBE TO LINE TRANSFORMERS (UNIVERSAL)

Stancor Number	From	To	Impedance		D.C. Pri.	Type Mounting	Dimensions			Weight in Carton	List Price
			Pri.	Sec.			H	W	D		
A-3250	Sgl. or P.P. 27, 30, 12A, 37, 55, 56, 76, 6C5, 6C6, etc.	Line	10,000	50, 125, 200, 333, 500	10	Q	2"	3 ⁵ / ₁₆ "	1 ⁵ / ₈ "	1.2	\$2.00
A-3315	Sgl. or P.P. 27, 30, 37, 55, 56, 76, 12A, 6C5, 6C6, etc.	Line	10,000 or 20,000	50, 125, 200, 333, 500	35	D	3 ¹ / ₈ "	2 ⁵ / ₈ "	3 ¹ / ₈ "	2.6	3.70
A-4770	Univ. Single Tube	Line	2,500, 4,500, 5,000, 6,000, 7,000	500	60	J	3 ¹ / ₈ "	2 ⁵ / ₈ "	2 ⁵ / ₈ "	2.3	3.25
A-4771	Univ. P.P. Tubes	Line	8,000, 10,000, 12,000, 14,000, C.T.	500	55	J	3 ¹ / ₈ "	2 ⁵ / ₈ "	2 ⁵ / ₈ "	2.3	3.50

MICROPHONE OR LINE TO LINE TRANSFORMER

A-4350	Sgl. or D.B. microphone	Line	50, 125, 200, 333, 500	50, 125, 200, 333, 500	150	Q	2"	3 ⁵ / ₁₆ "	1 ⁵ / ₈ "	1.0	\$2.50
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CHOKES -- MISC. TRANSFORMERS



FILTER CHOKES (REPLACEMENT TYPES)

Stancor Number	Rated Inductance in Henries	Maximum Current in M.A.	D.C. Resistance in Ohms	Volts Insulation	Type Mounting	Mounting Dimensions			Weight in Carton	List Price
						H	W	D		
C-1706	5	90	300	1650	A	1 ¹ / ₁₆ "	2 ³ / ₈ "	1 ¹ / ₁₆ "	0.5	\$0.90
C-1707	7	50	500	1650	A	1 ¹ / ₁₆ "	2 ³ / ₈ "	1 ¹ / ₁₆ "	0.5	.90
C-1708	10	65	460	1650	A	1 ⁷ / ₈ "	3 ¹ / ₄ "	2 ¹³ / ₁₆ "	1.1	1.20
C-1709	9	85	250	1650	A	1 ⁷ / ₈ "	3 ¹ / ₄ "	2 ¹³ / ₁₆ "	1.5	1.60
C-1710	8	150	200	1650	A	2 ¹ / ₂ "	4"	2 ¹ / ₁₆ "	2.3	2.00
C-1515	50	15	750	1650	A	1 ⁵ / ₈ "	2 ¹³ / ₁₆ "	1 ¹ / ₂ "	.7	1.00
C-1355	20	75	275	1650	L	2 ¹ / ₄ "	2 ⁵ / ₁₆ "	1 ⁵ / ₈ "	1.2	1.20
C-1003	30	50	550	1650	A	1 ⁷ / ₈ "	3 ³ / ₁₆ "	1 ⁵ / ₈ "	1.4	1.25
C-1002	30	75	400	1650	A	2 ¹ / ₄ "	3 ¹¹ / ₁₆ "	1 ⁷ / ₈ "	1.7	1.55
C-1001	30	110	200	3000	A	2 ¹ / ₂ "	4"	2"	2.4	1.85
C-2303	10	130	100	2000	A	2"	3 ³ / ₈ "	1 ⁵ / ₈ "	1.4	1.50
C-2304	8	150	65	2000	A	2"	3 ³ / ₈ "	1 ⁵ / ₈ "	1.4	1.30
C-2305	20	100	275	2000	E	2 ³ / ₈ "	2 ³ / ₄ "	2 ¹ / ₈ "	1.7	1.80



TYPE "A"



TYPE "L"

A.C.-D.C. CHOKES

C-1711	4.5	50	325	1600	O	1 ⁵ / ₁₆ "	2 ³ / ₈ "	1 ¹ / ₁₆ "	.5	\$.85
C-1723	4.4	50	330	1600	A	1 ¹ / ₁₆ "	2 ³ / ₈ "	1 ¹ / ₁₆ "	.5	.85
C-1080	15	50	200	1600	A	1 ⁵ / ₈ "	2 ¹³ / ₁₆ "	1 ³ / ₈ "	.6	.90
C-1277	15	50	300	1600	A	1 ⁵ / ₈ "	2 ¹³ / ₁₆ "	1 ³ / ₈ "	.6	.90
C-1279	15	50	400	1600	A	1 ⁵ / ₈ "	2 ¹³ / ₁₆ "	1 ³ / ₈ "	.6	.90
C-1215	15	50	500	1600	A	1 ⁵ / ₈ "	2 ¹³ / ₁₆ "	1 ³ / ₈ "	.6	.90



TYPE "O"

OUTPUT CHOKES

C-1003	30	50	550	1600	A	2"	3 ³ / ₁₆ "	1 ⁵ / ₈ "	1.4	\$1.25
C-1034*	30	30	1150	1600	A	1 ⁷ / ₈ "	2 ¹ / ₄ "	1 ⁵ / ₈ "	1.3	1.25

*Center tapped.

AUDIO REACTORS

Stancor Number	Rated Inductance in Henries	Inductance Measured at M.A.	Max. Current M.A.	D.C. Res. Ohms	Volts Insulation	Type Mounting	Mounting Dimensions			Weight in Carton	List Price
							H	W	D		
C-2300	1000	0.5	10	5500	1600	E	2 ³ / ₈ "	2 ⁵ / ₈ "	2 ¹ / ₈ "	1.5	\$2.00
C-2301	300	5	10	6000	1600	E	2 ³ / ₈ "	2 ⁵ / ₈ "	2 ¹ / ₂ "	1.8	2.25
C-1701*	300	10	10	11400	1600	D	3 ¹ / ₈ "	2 ⁵ / ₈ "	2 ³ / ₈ "	2.5	4.60

*Center tapped.

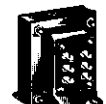


TYPE "B"

UNIVERSAL SPEAKER FIELD SUBSTITUTE CHOKE

Designed for the service department, to take the place of the speaker field on the test bench. It is so designed that when used with tap switch or plug-in jacks, all popular speaker field impedances and resistance are readily obtained. May also be used as substitute filter choke in radio to determine correct unit to use. Packed complete with full instructions.

Stancor No.	D.C. Resistance in Ohms	Resistance and Current Rating	Dimensions			Wt. in Carton	List Price	
			Type Mtg.	H	W			D
C-2302	3000 tapped at 2500, 1000 and 750	250, 750, 1000, 1750 ohms — 60 M.A. cont. or 75 M.A. Int. Duty 500, 1500, 2000, 2250, 2500, 3000 ohms — 40 M.A. cont. or 65 M.A. Int. Duty	B	3 ³ / ₈ "	2 ⁷ / ₈ "	3"	2.6	\$4.00



TYPE "D"

SPEAKER FIELD SUPPLY TRANSFORMERS

Stancor Number	Primary Voltage	Secondary D.C. Volts	Secondary Output	Filament Winding	Type Mounting	Mounting Dimensions			Weight in Carton	List Price
						H	W	D		
P-6149	115	100	150	5 V @ 3 A	C	3 ¹ / ₂ "	2 ¹⁵ / ₁₆ "	3 ¹ / ₄ "	3.2	\$3.00
P-6146	115	115	Up to 250	5 V @ 3 A	C	4"	3 ³ / ₁₆ "	3 ¹ / ₄ "	5.0	4.20
P-6147	115	300	Up to 200	5 V @ 3 A	C	4 ³ / ₈ "	3 ⁹ / ₁₆ "	3 ³ / ₄ "	7.5	5.75

SIX VOLT UNIVERSAL VIBRATOR TRANSFORMERS

These units equipped with mounting brackets for universal replacement work.

Stancor Number	Secondary		Type Mounting	Dimensions			Weight in Carton	List Price
	D.C. Volts to Filter	M.A.		H	W	D		
P-6301	150	40	S	2 ¹ / ₄ "	1 ⁷ / ₈ "	2"	1.3	\$2.60
P-4060	225	40	N	3 ¹ / ₈ "	2 ¹ / ₂ "	3"	2.2	2.75
P-4061	250	50	N	3 ¹ / ₈ "	2 ¹ / ₂ "	3"	2.3	3.00
P-4062	260	65	N	3 ¹ / ₈ "	2 ¹ / ₂ "	3"	2.6	3.50
P-4063	285	75	N	3 ¹ / ₈ "	2 ¹ / ₂ "	3 ¹ / ₄ "	3.0	4.00
P-6131	330	100	N	3 ¹ / ₂ "	2 ¹³ / ₁₆ "	3 ¹ / ₄ "	3.5	4.00



TYPE "N"

SIX VOLT D.C. OR 115 VOLT A.C. VIBRATOR TRANSFORMER

P-6166	350 Fil. 6.3 V. C.T.	135 2.25 A.	C	4 ⁵ / ₈ "	3 ⁷ / ₈ "	4"	9.0	5.75
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MISCELLANEOUS TRANSFORMERS

FENCE CONTROLLER TRANSFORMERS

Stancor Number	Primary		Filament		Secondary		Mounting Type	Dimensions			Weight in Carton	List Price
	Voltage	Cycles	Volts	Amps.	Open Circuit	Inst. Peak		H	W	D		
P-6122	6V.D.C.	None	...	...	3000 Inst. Peak	A*	2 1/8"	2 3/8"	2"		1.5	\$1.75
P-6126*	200V. A.C.	None	...	...	3000 Inst.	N*	2 3/4"	3 1/8"	2 1/4"		4.0	3.10
P-6127	115V. A.C.	5.0 2.0	2.0 8.0	...	900 V. (25 M.A. Peak)	N*	4 1/2"	3 3/8"	2 3/4"		2.0	5.50

*Has special moisture resisting compound overall.

†P-6126 special output transformer used in conjunction with P-6127 power transformer. Insulated for 5000V. A.C.

VARIABLE LINE AUTO TRANSFORMERS

These transformers designed so that associated equipment may be kept at a specific input voltage regardless of line voltage.

Stancor Number	Primary		Secondary		Output Watts	Type Mounting	Mounting Dimensions			Weight in Carton	List Price
	Volts	Cycles	Volts	...			H	W	D		
P-5066*	85-125	50-60	85-125	...	35	B	3 1/8"	2 1/2"	2 1/2"	2.0	\$3.25
P-5067*	85-125	50-60	85-125	...	75	B	3 1/2"	3"	2 3/4"	3.4	4.25
P-5068*	85-125	50-60	85-125	...	125	B	3 1/2"	3"	3 1/8"	4.0	5.00
P-6145*	85-125	50-60	85-125	...	500	B	4 1/2"	3 3/4"	4 1/2"	10.0	9.00

*Line regulating transformers continuously variable in 5 volt steps from 85-125 volts.

SPECIAL AUTOFORMER

P-6148	25-55-75 95-105-110 115-120 125-130	50-60	25-55-75 95-105-110 115-120 125-130	250	B	4 1/2"	3 3/4"	3 3/4"	8.0	\$7.50
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These Autoformers will deliver full output wattage at any secondary voltage specified above or can be used to supply any voltage in 5 volt steps from zero to 130 volts for special experimental applications.

TESTING AUTOFORMER

Designed by STANCOR for various test applications. Incorporates a convenient tap switch to permit variable voltages from 90 to 150 volts. It may be used to apply an overload voltage to radio sets being serviced which will indicate and cause suspected parts to break down, eliminating call

backs and dissatisfied customers. Primary equipped with 5 ft. approved cord and plug. Secondary connected to female receptacle. Locking screw permits switch to be locked at any desired voltage for permanent installations.

Stancor No.	Primary Voltage	Secondary Voltage	Output Watts	Type Mtg.	H	W	D	Wgt. in Carton	Price List
P-6299	90, 100, 110, 120, 130, 140, 150, @ 50-60 cy.	115V.	150	KA	3 7/8"	3 1/4"	4 3/4"	8.0	\$7.00

VARIABLE STEP-UP AND STEP-DOWN TRANSFORMER

This transformer may be used with primary voltages of 90, 100, 120, 220, 230, 240, or 250 volts to obtain 115 volts. This is accomplished by means of a convenient tap switch in the primary circuit.

Equipped with 5 ft. approved cord and plug on primary side and female outlet in secondary. Locking screw permits switch to be locked at any desired voltage for permanent installations.

P-6300	90, 100, 120, 220, 230, 240, 250, @ 50-60 cy.	115 V.	150	KA	4 3/8"	3 7/8"	5"	9.5	10.00
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STEP DOWN TRANSFORMERS

Stancor Number	Primary		Secondary		Output Watts	Type Mounting	Mounting Dimensions			Weight in Carton	List Price
	Volts	Cycles	Volts	...			H	W	D		
P-5062	220-250	50-60	110-125	...	80	K	3 1/2"	2 13/16"	3 1/4"	4.5	\$4.50
P-5063	220-250	50-60	110-125	...	100	K	3 7/8"	3 1/4"	3 1/4"	5.2	5.00
P-5064	220-250	50-60	110-125	...	150	K	4 1/4"	3 1/2"	3 5/8"	6.6	6.00
P-5065	220-250	50-60	110-125	...	250-300	K	4 5/8"	3 7/8"	4 1/8"	9.8	7.50
P-6141	220-250	50-60	110-125	...	500	K	4 3/8"	3 7/8"	5 1/4"	14.5	11.75
P-6124	220-250	50-60	110-125	...	1000	F	7"	7 1/8"	6 3/8"	30.0	17.50

ISOLATING TRANSFORMERS

These transformers are designed with electro-static shield to isolate line noises and interference from the apparatus being used. Especially suitable for screen test booth.

Stancor Number	Watts	Type Mounting	Mounting Dimensions			Weight in Carton	List Price
			H	W	D		
P-6160	100	K	4 5/8"	3 3/8"	3 3/8"	5.5 lbs.	\$9.00
P-6161	250	K	5 11/16"	6 1/2"	5 1/2"	14.0 lbs.	17.50
P-6298	500	F	7"	7 1/2"	7 1/4"	37.0 lbs.	27.50
P-6125	1000	F†	11"	7 1/8"	7 3/8"	50.0 lbs.	37.50
P-6123	1500	F†	11"	7 1/8"	7 1/2"	60.0 lbs.	45.00

†Available in special weather-proof type mounting at \$5.00 additional list. Add suffix W to Catalog Number.

TUBE CHECKER TRANSFORMER

Especially designed for use in modernizing older types of tube checkers. Ideal for other testing equipment and laboratory. Packed with wiring instructions giving color coding of leads.

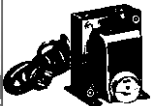
Stancor Number	Primary		Secondary		Mtge. Type	Dimensions			Wgt. in Carton	List Price
	Volts	Cycles	Volts	...		H	W	D		
P-1834-3	105, 115, 125	50-60	1.1, 1.4, 1.5, 2.0, 2.5, 3.0, 3.3, 5.0, 6.3, 7.5, 12, 25, 30, 35, 50, 70, 85, 110, 117	...	A	2 5/8"	4 1/16"	2"	2.6	\$4.00



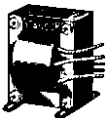
TYPE "C"



TYPE "B"



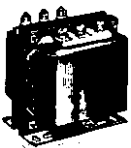
TYPE "K"



TYPE "N"



TYPE "KA"



TYPE "F"



STANCOR THE COMPLETE AMATEUR LINE

BUILT TO BROADCAST SPECIFICATIONS

"THOROBREDS"



Type PE

Thorobreds are new—modern—appealing—safe! Transformers have finally "come of age" and all because transformer users have demanded it! Thorobreds have new exclusive features—greater eye appeal—finer construction. The only transformer of its kind—anywhere.

Progress has brought about this change—present day transformers, like the steam locomotive, have done, and still continue to do the job—but—advancement in both cases necessitated drastic new designs to incorporate all necessary features to completely modernize. The railroads adopted streamline trains—transformer users—Stancor Thorobreds. Both are going places! Both are the last word in trim, clean-cut, ultra-modern design.

With the use of ever-increasing high potentials in amateur and commercial applications, attendant hazards have been eliminated by open type high voltage terminals. This danger has been eliminated in this totally different transformer. All terminals are covered—yet visible.

Compound sealed coils . . . rigidity and a new type mounting were necessary—they too, have been added to Thorobreds. In fact they have everything! Be up-to-date—have a professional looking transmitter. Modernize—with STANCOR THOROBREDS!

"THOROBRED" PLATE TRANSFORMERS

Stancor Number	Sec. A.C. Load Volts	D.C. Volts After Filter	Current in M.A.	Primary		Type Mounting	Dimensions			Weight in Carton	List Price	Net Price
				Voltage	V.A.		H	W	D			
P-8000	950-0-950	750	200	115	225	PE	6¼"	8¾"	6"	20	\$13.75	\$8.25
	770-0-770	600										
	670-0-670	500										
	550-0-550	400										
P-8001	1220-0-1220	1000	300	115	450	PE	7¼"	8"	6¾"	40	22.50	13.50
	900-0-900	750										
	770-0-770	600										
	575-0-575	450										
P-8002	1520-0-1520	1250	300	115	600	PE	7¼"	8"	7¾"	45	27.50	16.50
	1150-0-1150	1000		230								
P-8003	1440-0-1440	1250	500	115	930	PE	7¼"	8"	7¾"	65	42.50	25.50
	1150-0-1150	1000		230								
P-8004	1650-0-1650	1500	350	115	800	PE	7¼"	8"	7½"	50	30.50	18.30
	1340-0-1340	1250		230								
P-8005	2430-0-2430	2000	500	115	1500	PE	7¼"	12¾"	8¾"	85	57.00	34.20
	1820-0-1820	1750		230								
P-8006	2430-0-2430	2000	300	115	900	PE	7¼"	8"	7½"	60	39.00	23.40
	2120-0-2120	1750		230								
P-8007	3260-0-3260	3000	500	115	2250	PE	7¼"	12¾"	10¾"	110	75.00	45.00
	3020-0-3020	2500		230								

"THOROBRED" SWINGING CHOKES

Stancor Number	Henries Inductance	Current M.A.	D.C. Ohms Resistance	Volts Insulation	Type Mounting	Dimensions			Weight in Carton	List Price	Net Price
						H	W	D			
C-2310	8-30	200	100	3,000	PE	3¾"	4"	3¾"	5.5	\$7.50	\$4.50
C-2311	8-25	300	80	5,000	PE	4½"	5½"	4¾"	15	9.50	5.70
C-2312	5-25	400	60	5,000	PE	4½"	5½"	5¾"	25	11.00	6.60
C-2313	5-20	500	65	5,000	PE	6¼"	8¾"	6"	30	18.00	10.80

"THOROBRED" FILTER CHOKES

Stancor Number	Henries Inductance	Current M.A.	D.C. Ohms Resistance	Volts Insulation	Type Mounting	Dimensions			Weight in Carton	List Price	Net Price
						H	W	D			
C-2320	15	200	100	3,000	PE	3¾"	4"	3¾"	5.5	\$7.50	\$4.50
C-2321	12	300	80	5,000	PE	4½"	5½"	4¾"	15	9.50	5.70
C-2322	10	400	60	5,000	PE	4½"	5½"	5¾"	25	11.00	6.60
C-2323	8	500	65	5,000	PE	6¼"	8¾"	6"	30	18.00	10.80

"THOROBRED" BIAS TRANSFORMERS

Stancor Number	D.C. Output		Filament		Primary Volts	Type Mounting	Dimensions			Weight in Carton	List Price	Net Price
	Volts	M.A.	Volts	Amps.			H	W	D			
P-8015	90-120-170-200	200	5	3	115	PCD	3¾"	4"	4¼"	7.0	\$9.00	\$5.40
P-8016	250-350-400-450	200	5	3	115	PCD	4½"	5½"	4¾"	9.0	11.75	7.05

Note: Mounting type PCD similar to PE except for additional leads through bottom.

Above transformers, unless otherwise specified, are all for 110-115 volt, 50-60 cycle operation. Any of them may be supplied for 220-230 volt operation or for 25 cycles or both. For 220-230 volts, increase list price 25%; for 25 cycles, 60%; for 220-230 volts 25 cycles, 75%.

"THOROBRED" AUDIO TRANSFORMERS



CHECK THESE FEATURES

1. Fully Protected . . . Visible Terminals prevent high voltage hazards.
2. Extra heavy porcelain insulators.
3. Advantageously located terminal arrangement—(permits bottom, side or end connections).
4. Stancor impregnation plus special compound filling assures a greater margin of overall safety.
5. Ultra-modern in design. Lends professional appearance to any equipment.
6. Rigidly constructed cast-iron cases.
7. Grey crackle finish . . . neatly appointed.
8. New rugged type mounting can be bolted to chassis.
9. Stancor high quality material and workmanship throughout.
10. Attractively priced.



Type PE

"THOROBRED" DRIVER TRANSFORMERS (POLY-PEDANCE)

Stancor Number	Capacity in Watts	Pri. M.A. Per Side	Ratio Primary to 1/2 Secondary	Type Mounting	Dimensions			Weight in Carton	List Price	Net Price
					H	W	D			
A-8500	15	60	1.25:1, 1.4:1, 1.6:1, 1.8:1, 2:1, 2.2:1, 2.4:1	PCD	3 3/8"	4"	3 1/4"	5.0	\$ 7.75	\$4.65
A-8501	15	60	2.6:1, 3:1, 3.2:1, 3.4:1, 4:1, 4.5:1, 5:1	PCD	3 3/8"	4"	3 1/4"	4.5	7.50	4.50
A-8502	30	120	1.25:1, 1.5:1, 1.75:1, 2:1, 2.25:1, 3:1	PCD	3 3/8"	4"	3 3/4"	6.2	10.75	6.45
A-8503*	30	100	1.5:1, 2:1, 2.5:1, 3:1, 3.5:1	PCD	3 3/8"	4"	3 3/4"	6.2	10.75	6.45

*6L6's with 16% inverse feed back.

"THOROBRED" LINE DRIVER TRANSFORMERS (POLY-PEDANCE)

Stancor Number	Capacity in Watts	Ratio Primary to 1/2 Secondary	Type Mounting	Dimensions			Weight in Carton	List Price	Net Price
				H	W	D			
A-8504	15	1:1.75, 1:1.85, 1:1, 1:1.25, 1:1.45, 1:1.75, 1:2, 1:2.25, 1:2.5, 1:2.75, 1:3.15	PCD	3 3/8"	4"	3 1/2"	5.0	\$ 7.50	\$4.50
A-8505	30	1:1.75, 1:1.85, 1:1, 1:1.25, 1:1.45, 1:1.75, 1:2, 1:2.25, 1:2.5, 1:2.75, 1:3.15	PCD	3 3/8"	4"	3 1/2"	6.0	9.50	5.70

"THOROBRED" MODULATION TRANSFORMERS (POLY-PEDANCE)

Stancor Number	Capacity in Watts	Pri. M.A. Per Side	Secondary M.A.		Type Mounting	Dimensions			Weight in Carton	List Price	Net Price
			Series	Parallel		H	W	D			
A-8000	15	45	45	90	PE	3 3/8"	4"	3 3/8"	3.5	\$ 6.00	\$3.60
A-8001	30	80	80	160	PE	3 3/8"	4"	3 3/8"	9.0	8.50	5.10
A-8002	60	125	125	250	PE	4 1/2"	5 5/8"	4 3/8"	10	11.75	7.05
A-8003	125	200	150	300	PE	4 1/2"	5 5/8"	5 1/8"	22	18.50	11.10
A-8004	300	260	260	520	PE	6 1/4"	5 5/8"	5 3/4"	50	35.00	21.00
A-8005	600	350	350	700	PE	7 1/4"	12 3/8"	8 1/4"	95	67.00	40.20

"THOROBRED" FILAMENT TRANSFORMERS (POLY-AMP)

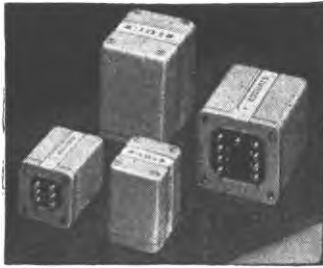
Stancor Number	Secondary		Primary		Volts Ins.	Type Mounting	Dimensions			Weight in Carton	List Price	Net Price
	Volts	Amps.	Volts	V.A.			H	W	D			
P-8021	2.5 C.T.	4	105	50	2,500	PE	3 3/8"	4"	3 3/4"	5.5	\$7.75	\$4.65
	2.5 C.T.	4										
	2.5	4										
	2.5	4										
P-8022	2.5 C.T.	8	105	95	2,500	PE	4 1/2"	5 5/8"	4 3/8"	10	10.00	6.00
	2.5 C.T.	8										
	2.5	8										
	2.5	8										
P-8023	2.5 C.T.	10	105	30	10,000	PE	3 3/8"	4"	3 3/4"	5.0	8.00	4.80

Note: Mounting type PCD similar to PE except for additional leads through bottom. Filament transformers listed above are for 105-115 volt, 50-60 cycle operation. Any of them may be supplied for 220-230 volt or 25 cycle operation or both. For 220-230 volts, increase list price 25%; for 25 cycles, 60%; for 220-230 volts 25 cycles add 75%.



"HI-FI" TRANSFORMERS

(HIGH FIDELITY)



"HI-FI" TRANSFORMERS

This exceptionally attractive, high quality cast iron case with reversible mounting features, dramatizes more than words the superiority of the unit it contains. Properly designed coils and high permeability laminations are used to give a maximum inductance with minimum distributed capacity; thus insuring uniform frequency response from 30 to 15,000 C.P.S. All W-2 type units are of hum bucking coil construction.

	Dimensions	H	W	L	Mtg. Centers	Weight Lbs.
W-1 Case		2 1/2"	1 13/16"	2"	1 1/2" x 1 3/8"	1.3
W-2 Case		3 1/2"	2 3/4"	3 1/16"	2 5/16" x 2"	4.3

MICROPHONE, PICKUP OR LINE TO GRID TRANSFORMERS

Stancor Number	Application		Ohms Impedance		Max. D.B. Level	Pri. D.C. M.A.		Case Type	List Price	Net Price
	From	To	Primary	Secondary		Max. Per Side	Un-bal.			
A-8511	Low Imp. Mixer, Pickup or Line	Single Grid	50, 125, 200, 250, 333, 500	50,000	+10	75	.5	W-1	\$10.00	\$6.00
A-8512	Adjustable Line	Single Grid	50, 200* 125, 500*	18,750 75,000*	+15	100	.5	W-2	18.00	10.80
A-8513	Low Imp. Mixer, Pickup or Line	Single Grid	2.5, 5.5, 10, 15, 22, 30, 40, 60	50,000	+10	75	.5	W-1	10.00	6.00
A-8515	Low Imp. Pickup, Micro. or Line	Push-Pull Grids	50, 125, 200, 250, 333, 500	80,000 Overall in Two Sections	+10	75	.5	W-1	10.00	6.00
A-8516	Multiple Line	Push-Pull Grids	50, 200* 125, 500*	25,000 100,000*	+15	100	.5	W-2	19.00	11.40
A-8518	Dynamic Micro.	One or Two Grids	30	50,000 Overall in Two Sections	+10	0	0	W-1	10.00	6.00

INTERSTAGE TRANSFORMERS

Stancor Number	Application		Ohms Impedance		Turns Ratio	Max. D.B. Level	Pri. D.C. M.A.		Case Type	List Price	Net Price
	From	To	Primary	Secondary			Max. Per Side	Un-bal.			
A-8521	Single Plate	Single Grid	10,000 or 15,000	60,000	1:2	+10	0	0	W-1	\$ 8.00	\$4.80
A-8522	Single Plate	Single Grid	10,000 or 15,000	60,000	1:2	+15	0	0	W-2	18.00	10.80
A-8525	Single Plate	Push-Pull Grids	10,000 or 15,000	80,000 Overall	1:2.3	+10	0	0	W-1	9.00	5.40
A-8526	Single Plate	Push-Pull Grids	10,000	100,000 Overall	1:3.15	+15	0	0	W-2	18.00	10.80
A-8530	Push-Pull Plates	Push-Pull Grids	10,000 Ea. Half	80,000 Overall	1:2.8	+15	10	.5	W-1	10.00	6.00
A-8531	Push-Pull Plates	Push-Pull Grids	10,000 Ea. Half 15,000	100,000 Overall in Two Sec. 1:2.25	1:3.15 1:2.25	+15	10	.5	W-2	18.00	10.80
A-8532	Push-Pull Plates	Push-Pull Pow. Grids	10,000 Ea. Half 15,000	20,000 Overall in Two Sec. 1:73:1	1:1 1:73:1	+20	10	.5	W-2	18.00	10.80

OUTPUT TO LINE OR VOICE COIL TRANSFORMERS

Stancor Number	Application		Ohms Impedance		Max. D.B. Level	Pri. D.C. M.A.		Case Type	List Price	Net Price
	From	To	Primary	Secondary		Max. Per Side	Un-bal.			
A-8012	Crystal Microphone	Multiple Line	100,000	50, 125, 200, 250, 333, 500	+10	0	0	W-1	\$10.00	\$6.00
A-8015	Single Plate (6CS, etc.)	Multiple Line—No D.C. in Pri.	10,000 or 15,000	50, 125, 200, 250, 333, 500	+10	0	0	W-1	10.00	6.00
A-8016	Single Plate (6CS, etc.)	Multiple Line D.C. in Primary	10,000 or 15,000	50, 125, 200, 250, 333, 500	+10	8	8	W-1	10.00	6.00
A-8018	Single Triode	Multiple Line	10,000 or 15,000	50, 200* 125, 500*	+15	8	8	W-2	18.00	10.80
A-8020	Single or Push-Pull Triodes	Multiple Line	7,500 30,000	50, 200* 125, 500*	+20	10	.5	W-2	18.00	10.80
A-8021	Push-Pull Low Level Plates	Multiple Line	10,000 Ea. Half 15,000	50, 125, 200, 250, 333, 500	+10	8	0	W-1	10.00	6.00
A-8022	Single Plate (6G6-G, etc.)	Voice Coil	10,000 or 15,000	1.5, 2, 4, 6, 8, 16	+15	10	10	W-1	10.00	6.00

LINE TO LINE (MIXING) TRANSFORMERS

Stancor Number	Application		Ohms Impedance		Max. D.B. Level	Pri. D.C. M.A.		Case Type	List Price	Net Price
	From	To	Primary	Secondary		Max. Per Side	Un-bal.			
A-8534	Mixing, Micro., Pickup, or Line	Multiple Line	50, 125, 200, 250, 333, 500	50, 125, 200, 250, 333, 500	+10	75	.5	W-1	\$10.00	\$6.00
A-8535	Multiple Line	Multiple Line	50, 200* 125, 500*	50, 200* 125, 500*	+15	100	.5	W-2	18.00	10.80

AUDIO REACTOR

Stancor Number	Application	Rated Inductance		M.A. D.C.	D.C. Ohms Resistance	Case Type	List Price	Net Price
		No. D.C.	D.C.					
C-2331	Parallel Feed	475 Hy.	320 Hy. 80 Hy.	2 4	6,000 1,500	W-1	\$7.00	\$4.20

*Balanced Center-Tap.

"TINYTRAN" TRANSFORMERS



STANCOR "TINYTRAN"

These extremely small size and lightweight units are ideal for applications where this requirement is paramount. Each unit is attractively finished in chromium. Tinytrans have all been given Stancor's exclusive impregnating process and vacuum sealed in special moisture proof compound. The transformers carrying D. C. in primary are for voice frequencies from 150 to 5,500 C.P.S. Transformers not carrying D. C. in primary have an extended frequency range uniform from 60 to 12,000 C.P.S.

Tinytrans are ordinarily furnished in T1 cases which have special solder lug terminals. Units only need one $\frac{13}{16}$ " hole to mount above or below chassis with two small screws.

The plug-in type mounting in T2 cases are also available upon order at no additional cost. Plug-in type inserts into an octal tube socket.

Dimensions: Terminal Type T1 $1\frac{5}{16}$ " Dia. x $1\frac{1}{4}$ " overall, 4 oz. weight
 Plug-in Type T2 $1\frac{1}{4}$ " Dia. x $1\frac{3}{4}$ " overall, 6 oz. weight



MICROPHONE, PICKUP OR LINE TO GRID TRANSFORMERS

Stancor Number	Application		Ohms Impedance		Primary M.A.		Over-all Turns Ratio	Max. D.B. Level	Case Type	List Price	Net Price
	From	To	Primary	Sec.	Max. D.C. Per Side	Unbal.					
A-8510	Micro., Pickup or Line	Single Grid	50, 200, 500	60,000	25	.5	1:10	0	T-1	\$10.00	\$6.00
A-8514	Micro., Pickup or Line	Push-Pull Grids	50, 200, 500	80,000	25	.5	1:12.7	0	T-1	10.00	6.00
A-8517	Dynamic Micro.	Single Grid	7.5, 30	50,000	0	0.0	1:39.6	0	T-1	9.00	5.40
A-8519	D.B. Microphone or Line	Single Grid	200	500,000	10	10.0	1:50	0	T-1	10.00	6.00

INTERSTAGE TRANSFORMERS

Stancor Number	Application		Ohms Impedance		Primary M.A.		Over-all Turns Ratio	Max. D.B. Level	Case Type	List Price	Net Price
	From	To	Primary	Sec.	Max. D.C. Per Side	Unbal.					
A-8520	Single Plate	Single Grid	10,000, 15,000	60,000	0	0	1:2	0	T-1	\$8.00	\$4.80
A-8523	Single Plate	Single Grid	10,000, 15,000	60,000	2	2.0	1:2	0	T-1	8.00	4.80
A-8524	Single Plate	Push-Pull Grids	10,000, 15,000	95,000	0	0	1:2.52	0	T-1	9.00	5.40
A-8527	Single Plate	Push-Pull Grids	10,000, 15,000	95,000	2	2.0	1:2.52	0	T-1	9.00	5.40
A-8528	Single Plate	Single Grid	10,000, 15,000	1,000,000	0	0	1:26	0	T-1	10.00	6.00
A-8529	Push-Pull Plates	Push-Pull Grids	10,000 Ea. Side	95,000	2	.25	1:1.54	0	T-1	10.00	6.00

MICROPHONE, PICKUP OR PLATE TO LINE TRANSFORMERS

Stancor Number	Application		Ohms Impedance		Primary M.A.		Max. D.B. Level	Case Type	List Price	Net Price
	From	To	Primary	Secondary	Max. D.C. Per Side	Unbal.				
A-8010	Velocity Microphone	Line	0.2	200, 500	0	0	0	T-1	\$9.00	\$5.40
A-8011	Dynamic Microphone	Line	7.5, 30	200, 500	0	0	0	T-1	9.00	5.40
A-8013	Crystal Pickup or Microphone	Line	50,000	50, 200, 500	0	0	0	T-1	10.00	6.00
A-8014	Single Plate	Line	10,000, 15,000	50, 200, 500	2	2.0	0	T-1	10.00	6.00
A-8017	Single Plate	Line	10,000, 15,000	50, 200, 500	0	0	0	T-1	10.00	6.00
A-8019	Push-Pull Plates	Line	10,000, 15,000 Each Side	50, 200, 500	2	0.5	0	T-1	10.00	6.00

LINE TO LINE (MIXING) TRANSFORMERS

Stancor Number	Application		Ohms Impedance		Max. D.C. Either Winding		Max. D.B. Level	Case Type	List Price	Net Price
	From	To	Primary	Secondary	Unbal.	Per Leg				
A-8533	Microphone or Line	Line	50, 125, 200, 500	50, 125, 200, 500	20	0.5	0	T-1	\$9.00	\$5.40

AUDIO REACTOR

Stancor Number	Application	Rated Inductance			D.C. Ohms Resistance	Case Type	List Price	Net Price
		No. D.C.	Max. D.C.	M.A. D.C.				
C-2330	Parallel Feed	200 Hy.	50 Hy.	2	4,000	T-1	\$7.00	\$4.20



FILAMENT TRANSFORMERS

Single Secondary

Transformers with 105V. tap may be used on 115V. with primary rheostat for voltage control.

Stancor Number	Primary Voltage	Secondary		Type Mounting	Mounting Dimensions			Insulation in Volts	Weight in Carton	List Price	Net Price
		Volts	Amperes		H	W	D				
P-4082	105-115	2.5	2.5	E	2 3/8"	2 5/8"	2 1/8"	2,500	1.4	\$2.30	\$1.38
P-6133	115	2.5	5	S	2 13/16"	2 1/2"	2 3/4"	7,500	2.7	1.75	1.05
P-6140	115	2.5	5.25	N	2 13/16"	2 1/2"	2 3/4"	2,500	1.6	1.60	.96
P-4083	105-115	2.5	6	C	3 1/8"	2 5/8"	2 3/8"	2,500	2.2	2.85	1.71
P-3024	105-115	2.5	10	C	3 1/8"	2 5/8"	2 5/8"	2,500	2.7	3.40	2.04
P-3060	115	2.5	10	B	3 1/2"	2 13/16"	2 1/2"	10,000	3.0	3.00	1.80
P-3025	105-115	2.5	10	FA	5"	4 1/4"	8 1/4"	10,000	5.3	4.00	2.40
P-3026	105-115	5	3	C	3 1/8"	2 5/8"	2 5/8"	2,500	2.5	3.00	1.80
P-4088	115	5	3	B	3 1/8"	2 1/2"	2 1/8"	2,500	2.0	2.00	1.20
P-3062	115	5	6	B	3 1/8"	2 1/2"	2 3/4"	2,500	2.5	2.50	1.50
P-5000	105-115	5	6	C	3 1/8"	2 5/8"	2 1/8"	2,500	3.2	3.50	2.10
P-6135	115	5	10	N	3 1/8"	2 5/8"	3 1/4"	2,500	3.1	3.25	1.95
P-4086	105-115	5	14	FA	5"	4 1/4"	8 1/4"	10,000	9.4	7.00	4.22
P-6302	105-115	5	22	FA	5"	4 1/4"	8 1/4"	10,000	12.0	9.50	5.70
P-6136	115	5.25	4	N	2 11/16"	2 1/2"	2 3/4"	2,500	2.3	2.00	1.20
P-6137	115	5.25	13	N	3 3/8"	3 1/4"	3 5/8"	2,500	4.2	3.25	1.95
P-5011	105-115	5.25	13	C	3 3/8"	3 1/4"	3 5/8"	2,500	5.8	5.00	3.00
P-6134	115	6.3	1.2	A	1 5/8"	2 13/16"	1 1/2"	2,500	0.6	1.25	.75
P-5014	115	6.3	3	B	3 1/8"	2 1/2"	2 1/4"	2,500	2.0	1.75	1.05
P-4019	105-115	6.3	4	C	3 1/8"	2 5/8"	2 3/8"	2,500	2.8	3.40	2.04
P-3064	115	6.3	6	B	3 1/8"	2 1/2"	2 3/4"	2,500	2.4	2.75	1.65
P-4089	105-115	6.3	6	C	3 5/8"	2 13/16"	3 5/8"	2,500	3.7	3.75	2.25
P-6308	115	6.3	10	N	3 1/2"	2 13/16"	3 1/2"	2,500	4.0	3.00	1.80
P-6309	115	6.3	20	N	4 5/8"	3 7/8"	3 7/8"	2,500	7.5	7.00	4.20
P-5015	115	7.5	4	B	3 1/8"	2 1/2"	2 1/2"	2,500	2.5	2.00	1.20
P-4091	105-115	7.5	5	C	3 5/8"	2 13/16"	2 7/8"	2,500	4.0	3.85	2.31
P-6138	115	7.5	8	N	3 3/4"	3 1/8"	3 1/2"	2,500	4.1	3.00	1.80
P-4092	105-115	7.5	8	C	3 3/8"	3 1/4"	3 5/8"	2,500	5.6	4.75	2.85
P-4094	105-115	7.5	15	C	4 5/8"	3 3/8"	3 3/4"	5,000	7.3	6.20	3.72
P-4093	105-115	7.5	24	D	4 5/8"	3 7/8"	5 5/8"	5,000	13.6	10.40	6.24
P-5016	115	10	4	B	3 1/2"	3"	2 1/4"	2,500	3.0	2.75	1.65
P-4096	105-115	10	5	C	3 3/8"	3 1/4"	3 3/8"	2,500	4.6	4.50	2.70
P-6139	115	10	8	N	3 3/8"	3 1/4"	3 1/2"	2,500	4.1	3.40	2.04
P-4097	105-115	10	8	C	3 1/8"	3 1/4"	3 5/8"	2,500	5.8	4.75	2.85
P-5002	105-115	10	12	FA	5"	4 1/4"	8 1/4"	7,500	11.6	9.00	5.40
P-3020	105-115	11	10	C	4 5/8"	3 3/8"	3 1/4"	2,500	7.8	6.50	3.90
P-6164	115	*6.3, 5.25	2.5	B	2 5/8"	2 1/4"	2 3/8"	2,500	1.8	2.00	1.20

Multiple Secondary

Stancor Number	Primary Voltage	Secondary		Type Mounting	Mounting Dimensions			Insulation in Volts	Weight in Carton	List Price	Net Price
		Volts	Amperes		H	W	D				
P-5012	105-115	2.5 C.T. 5.0 C.T.	10.0 3.0	FA	5"	4 1/4"	8 1/4"	10,000	7.5	\$4.30	\$2.58
P-3061	115	2.5 C.T. 7.5 C.T.	5.0 4.0	B	3 1/2"	2 7/8"	3"	2,000	3.5	2.30	1.38
P-5009	105-115	5.0 C.T. 6.3 C.T.	3.0 6.0	C	3 3/8"	3 1/4"	3 3/8"	2,500	4.7	4.80	2.88
P-5008	105-115	5.0 C.T. 6.3 C.T.	4.0 3.6	C	3 1/2"	2 13/16"	3 1/4"	2,500	4.0	4.30	2.58
P-4022	105-115	5.0 C.T. 6.3 C.T.	6.0 6.0	C	3 3/8"	3 1/4"	3 3/8"	2,500	5.0	5.00	3.00
P-4090	115	6.3 C.T. 7.5 C.T.	3.0 4.0	B	3 1/2"	2 7/8"	3"	2,500	3.7	2.80	1.68
P-6144	115	2.5 C.T. 5.0 C.T. 6.3 C.T.	3.5 3.0 3.0	C	3 1/8"	3 1/4"	3"	2,500	4.0	4.75	2.85
P-4084	105-115	5.0 C.T. 6.3 C.T. 7.5 C.T.	3.0 3.6 3.25	C	3 3/8"	3 1/4"	3 5/8"	2,500	5.6	5.50	3.30
P-6310	105-115	2.5 2.5 *2.5 *2.5	4.0 4.0 4.0 4.0	C	3 1/2"	2 13/16"	3 1/8"	2,500	3.7	5.75	3.45
P-6311	105-115	2.5 2.5 *2.5 *2.5	8.0 8.0 8.0 8.0	C	4 5/16"	3 9/16"	3 3/4"	2,500	6.5	7.50	4.50
P-6333	115	7.5, 6.3 C.T. *5.0 *5.0 *6.3	3.0 3.0 3.0 4.0	B	2 7/8"	3 3/8"	2 3/4"	2,500	4.6	4.25	2.55
P-6338	115	*6.3 *2.5 *5.0 5.0	3.0 3.0 3.0 2.0	C	3 1/2"	2 7/8"	3 1/8"	2,500	4.0	4.25	2.55

*Windings not center tapped. For 220-230 volt primaries add 25%. For 25 cycles add 60%. For 220-230 volts, 25 cycles add 75%.



TYPE "C"



TYPE "E"



TYPE "N"



TYPE "FA"



TYPE "B"



TYPE "D"



PLATE TRANSFORMERS -- CHOKES



PLATE TRANSFORMERS

Conservatively rated to supply maximum rated current under continuous operation. D.C. voltages listed are those obtained at maximum rated current drain, after allowance for voltage drop in the rectifier and two section filter.

Stancor Number	Primary Voltage	D.C. Voltage After Filter	Taps	Current in M.A.	Type Mounting	Mounting Dimensions			Weight in Carton	List Price	Net Price
						H	W	D			
P-5060	115	400	...	250	H	4 5/8"	3 3/4"	3 3/4"	9.2	\$6.50	\$3.90
P-6337	115	400	...	250	C	4 3/8"	3 1/2"	4"	9.5	7.50	4.50
P-4024	105-115	400	40 Volt Bias	300	C	4 5/8"	3 3/8"	4 1/4"	12.3	9.00	5.40
P-3010†	105-115	500	400	175	C	4 5/8"	3 1/8"	3 5/8"	7.3	8.00	4.80
P-6321	115	500	400-30	250	C	4 5/8"	3 3/8"	3 3/4"	8.0	7.50	4.50
P-3699	115	600	...	200	H	4 5/8"	3 3/4"	4 1/8"	9.4	6.50	3.90
P-6334	115	600	400	300	G	4 3/8"	3 3/8"	5 1/2"	15.5	11.50	6.90
P-3535	115	750	600-400	300	H	4 5/8"	3 3/4"	5 1/2"	15.5	9.95	5.97
P-5050	105-115	750	600	250	C	4 5/8"	3 1/2"	5 1/4"	15.0	10.50	6.30
P-6322*	115	1000	400	130-150	C	4 5/8"	3 3/8"	5 1/8"	14.0	10.00	6.00
P-4030	115	1000	750	250	D	4 5/8"	3 3/4"	5 1/2"	17.2	11.50	6.90
P-3012	105-115	1000	750	400	F	7"	6 1/8"	6 1/8"	31.5	19.00	11.40
P-6152	115	1250	1000	300	F	7"	7 1/8"	6 1/2"	26.0	16.00	9.60
P-6153	115	1250	1000	500	F	7"	7 1/2"	7 1/4"	36.0	23.00	13.80
P-5053	115-230	1500	1250	300	F	7"	7 1/8"	6 3/8"	30.0	18.50	11.10
P-6157	115	1500	1250	500	F	7"	7 1/8"	7 1/2"	43.0	29.50	17.70
P-6156	115	1750	1500	300	F	7"	7 1/8"	6 3/8"	31.0	20.00	12.00
P-6159	115	1750	1500	500	F	11"	7 1/8"	6 1/4"	52.0	37.50	22.50
P-6151	115	2000	...	250	F	7"	7 1/8"	6 3/4"	30.0	19.50	11.70
P-6154	115	2000	1750	300	F	7"	7 1/8"	7"	31.5	21.50	12.90
P-6162	115-230	2000	1750	500	F	11"	7 1/8"	6 3/4"	57.0	42.50	25.50
P-6155	115	2500	2000	300	F	7"	7 1/8"	7 3/8"	43.0	29.50	17.70
P-6163	115-230	2500	2000	500	F	11"	7 1/8"	7 1/2"	60.0	50.00	30.00
P-6150	115-230	3000	...	375	F	11"	7 1/8"	8"	55.0	40.00	24.00

*Secondary with taps suitable for dual rectifier supply. Each output available at rated current.

†Designed to deliver rated voltages when used with condenser input filter.

Note: Transformers with more than one high voltage output have secondary with taps suitable for dual rectifier supply. Total current should not exceed rating.

BIAS TRANSFORMERS

Stancor No.	D.C. Output		Filament			Pri. Mounting Type	Dimensions			Weight in Carton		List Price	List Price
	Volts	M.A.	Volts	Amps.	Volts		H	W	D	Weight	Price		
P-6317	90-130-170-200	200	5	3	115	CD	3 1/8"	3 1/4"	3 3/4"	4.9	\$7.50	\$4.50	
P-6318	250-350-400-450	200	5	3	115	CD	4 1/4"	3 3/8"	4 1/4"	7.0	8.50	5.10	

Above plate and bias transformers are for listed voltage 50-60 cycle operation. They may be supplied for 220-230 volt operation or for 25 cycles or both. For 220-230 volts increase list price 25%; for 25 cycles, 60"; for 220-230 volts 25 cycles, 75%.

CHOKES — SWINGING

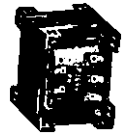
Choke inductances rated for full load to no load current values. All units well insulated and conservatively rated.

Stancor Number	Inductance in Henries	Maximum Current in M.A.	D.C. Resistance in Ohms	Volts Insulation	Type Mounting	Mounting Dimensions			Weight in Carton	List Price	Net Price
						H	W	D			
C-1718	8-30	150	130	2000	C	3 3/8"	2 1/2"	2 1/2"	2.5	\$3.25	\$1.95
C-1400	8-40	175	100	3000	C	3 1/8"	2 1/2"	2 1/2"	2.7	3.00	1.80
C-1719	5-25	200	120	3000	N	3 3/4"	3 1/2"	3 1/4"	5.0	3.80	2.28
C-1401	8-30	200	80	3000	C	3 1/2"	2 13/16"	3 1/8"	3.5	3.70	2.22
C-1645	8-35	200	85	5000	C	3 3/8"	3 1/4"	3 3/8"	4.7	4.00	2.40
C-1702	8-30	250	60	3000	B	3 1/2"	2 13/16"	3"	3.9	3.75	2.25
C-1402	8-30	250	60	3000	C	3 5/8"	2 13/16"	3 1/8"	4.6	4.40	2.64
C-1720	5-25	300	80	3000	N	4 1/2"	3 3/4"	3 1/2"	8.5	5.00	3.00
C-1403	8-25	300	80	5000	D	4 5/8"	3 3/8"	3 3/8"	8.4	6.50	3.90
C-1404	5-25	400	60	5000	D	4 5/8"	3 3/8"	4 3/8"	12.3	9.00	5.40
C-1405	5-20	500	65	5000	F	8 1/16"	6"	5 3/4"	17.0	11.00	6.60

CHOKES — FILTER

Companions to the swinging choke group. These units will give the same satisfactory long life.

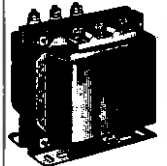
C-1420	30	80	350	2000	C	3 3/8"	2 1/2"	2 1/2"	2.6	\$2.25	\$1.35
C-1421	25	140	160	3000	C	3 1/8"	2 1/2"	2 1/2"	2.7	3.00	1.80
C-1410	20	175	100	3000	C	3 1/8"	2 1/2"	2 1/2"	2.7	2.75	1.65
C-1721	15	200	120	3000	N	3 3/4"	3 1/2"	3 1/4"	4.5	3.80	2.38
C-1411	15	200	80	3000	C	3 5/8"	2 13/16"	3 1/4"	4.0	3.00	1.80
C-1646	20	200	70	5000	C	3 3/8"	3 1/4"	3 3/8"	4.7	4.00	2.40
C-1703	15	250	60	3000	B	3 1/2"	2 13/16"	3 1/2"	3.9	3.75	2.25
C-1412	15	250	60	3000	C	3 5/8"	2 13/16"	3 1/4"	4.8	4.40	2.64
C-1722	13	300	80	3000	N	4 1/2"	3 3/4"	3 1/2"	8.5	5.00	3.00
C-1413	12	300	80	5000	D	4 5/8"	3 3/8"	3 3/8"	8.5	6.50	3.90
C-1414	10	400	60	5000	D	4 5/8"	3 3/8"	4 3/8"	13.5	9.00	5.40
C-1415	8	500	65	5000	F	8 1/16"	6"	5 3/4"	17.0	11.00	6.60



TYPE "H"



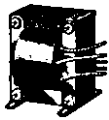
TYPE "C"



TYPE "F"



TYPE "D"



TYPE "N"



TYPE "B"





DRIVER TRANSFORMERS

POLY-PEDANCE DRIVER TRANSFORMERS

These most versatile Poly-Pedance transformers are tapped to give many usable ratios as Class B drivers. Ratio chart and instructions furnished with each unit.

Stancor No.	Capacity in Watts	Primary M.A. Per Side	RATIO						Type Mounting	Dimensions			Weight in Carton	List Price	Net Price
			Primary to 1/2 Secondary			1/2 Secondary				H	W	D			
A-4761	15	60	1.25:1, 1.4:1, 1.6:1, 1.8:1, 2:1, 2.2:1, 2.4:1				CD	3 1/8"	2 5/8"	3 3/4"	3.0	\$5.75	\$3.45		
A-4762	15	60	2.6:1, 3:1, 3.2:1, 3.4:1, 4:1, 4.5:1, 5:1				CD	3 1/8"	2 5/8"	3 1/4"	2.8	5.50	3.30		
A-4763	30	120	1.25:1, 1.5:1, 1.75:1, 2:1, 2.25:1, 3.2:1				CD	3 1/2"	3"	4"	4.3	7.25	4.35		
A-4764*	30	120	1.5:1, 2:1, 2.5:1, 3:1, 3.5:1				CD	3 1/2"	3"	4"	4.3	7.25	4.35		

*P.P. 6L6's with 16% inverse feed back.

POLY-PEDANCE LINE DRIVER TRANSFORMERS

Stancor No.	Capacity in Watts	RATIO	Dimensions			Type Mounting	Weight in Carton	List Price	Net Price
			H	W	D				
A-4765	15	1:0.75, 1:0.85, 1:1, 1:1.25, 1:1.45, 1:1.75, 1:2, 1:2.25, 1:2.5, 1:2.75, 1:3.15	3 1/8"	2 5/8"	3 1/2"	CD	3.0	\$5.50	\$3.30
A-4766	30	1:0.75, 1:0.85, 1:1, 1:1.25, 1:1.45, 1:1.75, 1:2, 1:2.25, 1:2.5, 1:2.75, 1:3.15	3 1/2"	3"	3 3/4"	CD	4.0	6.50	3.90

DRIVER TRANSFORMERS

Driver tubes are listed in order of preference with best listed first. All drivers used as triodes Class A. Driver tube chosen should be of sufficient power to drive Class B tubes used.

Stancor Number	From	To	Class	Impedance		Ratio Pri. to 1/2 Sec.	D.C. Pri. M.A.	Type Mounting	Mounting Dimensions			Weight in Carton	List Price	Net Price
				Pri.	1/2 Sec.				H	W	D			
A-4752†	P.P. or 1-45, 6F6, 2A5, 42, 6K6, 6N7, 6CS	P.P. 6K6, 2A5, 42, 42, 6F6, 6L6, 6V6, 6Y6, 6Z7	AB	10,000	10,000	1:1, 1.5:1, 2:1	35	S	2 1/4"	2 7/8"	1 1/8"	1.5	\$2.00	\$1.20
A-4405	1-45, 6F6, 42, 2A5, 6K6, 41	P.P. 42, 89, 2A5, 6F6, 6V6, 6Z7	B	10,000	6,400	1.24:1	40	C	3 1/8"	2 5/8"	2 5/8"	2.7	3.50	2.10
A-4406	P.P. 2A3, 6A3, 45	P.P. 50T, 154, 203A, HF100, HF200, 825	B	18,500	6,250	1.71:1	95	C	3 1/8"	2 5/8"	2 5/8"	2.6	3.50	2.10
A-4721	1-2A3, 6A3, 45, 46, 59, 42, 6F6, 2A5, 89, 53, 6A6, 6N7, 6CS, 37, 30, 1H4	1-1J6G, 19, 79, 6Z7, 53, 6N7, P.P. 42, 45, 6F6, 46, 49, 2A5, 59, 89, 6K6, TZ20	B	10,000	2,500	2:1, 3:1	30	E	2 5/8"	2 3/4"	2 1/4"	1.5	2.50	1.50
A-4404	P.P. 2A3, 6A3, 45, 6L6, 6V6, 6F6, 50, 42, 59 P.P. Par. 2A3 6A3, 6L6	P.P. 849, P.P. 800, 830B, 203, 10, RK18, RK98, HF100, T20, TZ40, 811, P.P. 154, 812, 203A, 838, 211, 203Z, RK38, HF100, 100TL, HF200, 822, HD203A, 354, 150T	A B	14,000	3,500	2:1	90	C	3 1/2"	2 15/16"	3 3/8"	3.7	4.15	2.49
A-4292	1-6CS, 6J5, 30, 1H4, 49	1-1J6G, 19, 79, 6Z7, P.P. 30, 1H4, 49	B	10,000	1,600	2.5:1	10	A	1 5/8"	2 15/16"	1 1/2"	.7	1.50	.90
A-4208†	P.P. 6C5, 6J5, 6N7, 6L5, 56, 27, 76, 55, 85, 6R7	P.P. 2A3, 2A5, 6A3, 6F6, 6L6, 6V6, 42, 45, 50, 59, 89	AB	25,000	3,200	2.79:1	15	C	3 1/8"	2 5/8"	2 5/8"	2.5	3.45	2.07
A-4210	1-2A3, 6A3, 45, 46, 59, 2A5, 6F6, 42, 89, 6C5, 6N7, 76	P.P. 2A3, 6A3, 46, 59, P.P. 2A5, 42, 45, 6F6, 6L6, 807	B AB	22,500	2,500	3:1	40	C	3 3/8"	2 5/8"	2 5/8"	2.6	3.25	1.95
A-4701†	P.P. 46, 89, 6C5, 6J5, 56, 37, 27, 76	P.P. 6L6, 6V6, 6Y6, 42, 6F6, 45, 2A3, 6A3	AB1	20,000	2,200	3.1:1	25	C	3 1/8"	2 5/8"	2 5/8"	2.7	3.50	2.10
A-4212	P.P. 2A3, 6A3, 45, 6L6	P.P. 801, 830B, 35T, 808, 838, RK52, Z120, RK57, HY40Z, 805, 823, 756, 100TL, 100TH, TZ20, TZ40, P.P. Par. 46, 59, P.P. 807	B AB	25,600	2,500	3.2:1	50	C	3 3/8"	2 5/8"	2 5/8"	2.6	3.25	1.95
A-4216	1-53, 6A6, 6N7, 79, 6E6, 2-53, 6A6, 6N7	1-53, 6A6, 6N7, 6E6, 6N6, 89, 2-53, 6A6, 6N7	B	25,000	1,000	5:1	15	E	2 5/8"	2 5/8"	2 1/8"	1.5	2.50	1.50
A-4416†	P.P. 2A3, 45, 46, 59, 6F6, 2-53, 6A6, 6N7	P.P. 6L6, 6V6, P.P. Par. 46, 59, 2-53, 6A6, 6N7	AB2 B B	30,000	1,200	5:1	40	C	3 3/8"	2 5/8"	2 5/8"	2.7	3.25	1.95
A-4702†	1-2A3, 45, 46, 89, 2A5, 6F6, 42	P.P. 6L6, 6V6, 6F6, 45, P.P. Par. 6L6	AB2 AB1	50,000	2,000	5:1	80	C	3 3/8"	2 5/8"	2 5/8"	2.7	3.30	1.98
A-4703†	P.P. 2A3, 45, 46, 6L6, 89, 6F6, 2A5, 42	P.P. 807, HY61, P.P. Par. 6L6	AB2	10,000	325	5.6:1	95	C	3 1/2"	2 15/16"	3 3/8"	3.8	4.00	2.40

†Split Secondary. †P.P. primary ratio is 2:1.

Net



TYPE "S"



TYPE "J"



TYPE "CD"



TYPE "C"



TYPE "E"



TYPE "A"



MODULATION TRANSFORMERS



POLY-PEDANCE MODULATION TRANSFORMERS

These most versatile Poly-Pedance transformers are tapped to give wide range of impedances for correctly matching every type of load. Impedance chart and instructions furnished with each unit.

Stancor No.	Max. Watts	Aud. Pri. M.A. Per Side	Secondary M.A.		Type Mtg.	Dimensions			Wt. in Carton	List Price	Net Price
			Series	Parallel		H	W	D			
A-3891	15	45	45	90	D	3 1/8"	2 3/8"	3 1/8"	2.5	\$5.00	\$3.00
A-3892	30	80	80	160	D	3 7/8"	3 1/4"	4 3/8"	6.0	6.75	4.05
A-3893	60	125	125	250	D	3 7/8"	3 1/4"	4 7/8"	7.3	8.00	4.80
A-3894	125	150	150	300	D	4 5/8"	3 7/8"	5 1/2"	12.0	10.50	6.30
A-3895	300	260	260	520	FS	7"	6 1/4"	6 3/4"	35.0	30.00	18.00
A-3896	600	350	350	700	FS	11"	7 1/2"	10"	75.0	62.50	37.50

PLATE MODULATION TRANSFORMERS

Conservatively rated for continuous duty at maximum current and audio wattage. Well insulated against voltage breakdown. Excellent construction and impregnation assure quiet operation and long life.

Stancor No.	Output Tubes	Class	Impedance		D.C. Pri. M.A.	D.C. Sec. M.A.	Max. Audio Watts	Type Mounting	Dimensions			Weight in Carton	List Price	Net Price
			Pri.	Sec.					H	W	D			
A-3812	1-1G6, 1J6, 19, 6E6, 6G6, 6Z7, P.P. 1H4, 30, 49, 1-1G5, 6K6, 37, A 38, 41	B	10,000	4,000	32	50	5	A	1 5/8"	2 3/16"	1 1/2"	.7	\$1.30	\$0.78
A-3871	1-6B5*, 6F6*, 6L6, 6N6*, HY69	A1	4,500	8,500	60	50	10	E	2 3/8"	2 3/4"	2 1/8"	1.8	2.75	1.65
A-3806	P.P. 2B6, 6B5, 6N6, 6V6 P.P. 6F6, 6V6	A AB	10,000	3,300, 4,000, 5,000, 6,250	90	150	20	D	3 7/8"	3 1/2"	3 3/8"	4.7	5.50	3.30
A-3873	P.P. 6L6, RK56, HY60	AB1	8,500	8,000	100	100	25	C	3 3/4"	2 5/8"	3 3/8"	6.1	5.00	3.00
A-3321	1-6A6, 6Y7, 53, 79, 6N7 P.P. 6F6, 6V6	B AB	10,000	3,000	100	125	25	C	3 3/8"	2 5/8"	2 5/8"	3.2	3.00	1.80
A-3845	1-6A6, 6N7, 53, 79, 6Y7 P.P. 6F6, 6V6, 2A5, 42	B AB2	10,000	3,000, 5,000, 6,500, 8,000	100	100	25	C	3 1/8"	2 5/8"	2 3/4"	3.5	3.25	1.95
A-3835	P.P. 2A3, 6A3, 45, 6A5, 6B4, 50, P.P. 6L6	AB AB1	3,000, 5,350, 8,350, 5,000, 10,000		80	100	25	C	3 7/8"	3 1/4"	3 3/8"	5.2	4.70	2.82
A-3868	P.P. 6L6	AB1	6,600	12,000	100	70	35	C	3 1/4"	2 5/8"	3 3/8"	6.1	4.80	2.88
A-2906	P.P. 10, HK24, 46, 59, 801, 1602 P.P. 6L6, 50, HY69	B AB	6,000	3,300, 4,000, 5,000, 6,250	200	125	40	D	4 3/16"	3 3/16"	4"	7.0	6.00	3.60
A-3843	P.P. 6L6, RK56, HY60	AB1	6,600	5,000, 7,500, 14,500	150	150	40	D	4 3/16"	3 3/16"	3 3/4"	7.0	6.50	3.90
A-3874	P.P. 6L6	AB1	6,000	500, 2,800	100	200	50	C	4 1/4"	3 1/2"	3 1/2"	6.5	6.75	4.05
A-3808	P.P. 6L6, 807, HY61, RK41 P.P. Par 6L6	AB2 AB1	3,800, 4,000, 7,500, 10,000, 3,300		260	170	60	D	4 5/8"	3 7/8"	3 7/8"	7.7	7.30	4.38
A-3320	P.P. PAR-46, 59, HY69, 807, 1608	B AB2	3,200	3,300, 4,000, 5,000, 6,250	330	225	80	D	4 5/8"	3 7/8"	4 3/8"	10.0	9.60	5.76
A-2907	P.P. 10, T20, 35, TZ20, HY25, 46, 801, 909, 825, 841	B	8,000	3,300, 5,000, 6,800, 9,000, 12,500	200	150	90	D	4 5/8"	3 7/8"	4 3/8"	10.2	8.70	5.22
A-2908	P.P. RK18, T20, TZ20, HY25, RK-31, 35T, 50T, H57, 800, 801, 830B, 1623	B	7,200	3,000, 4,500, 12,000, 5,350, 6,250	260	220	120	D	4 5/8"	3 7/8"	4 3/8"	10.4	10.00	6.00
A-3829	P.P. RK12, HY25, 35T, HY40, Z, T40, TZ40, 100-TL, HK354, 756, 809, 830B	B	6,900	3,300, 4,000, 9,000, 5,000, 6,250	250	300	175	D	4 5/8"	3 7/8"	5"	11.8	10.80	6.48
A-3844	P.P. HY51, RK52, RK57-58, 100-T, TL, ZB120, T155, 203A, H, Z, 211, C, D, H, 242A, 261A, 276A, HK354, E, 805, 808, 838	B	6,900	2,500, 9,000, 10,000	300	400, 200	300	F	7"	6 1/8"	6 1/8"	25.5	20.00	12.00
A-3816	P.P. RK57, T155, HF200, HD203A, 211H, HK354, E, 805, T814, 822	B	8,000	4,000, 6,250, 10,000, 9,000	500	500	500	F	11"	6 1/8"	7 3/8"	68.0	40.00	24.00

*Secondary winding used as primary.

MODULATION TRANSFORMERS—LINE TO R. F. LOAD

Stancor No.	Ohms Impedance		D.C. Sec. M.A.	Max. Audio Watts	Type Mtg.	Dimensions			Weight in Carton	List Price	Net Price
	Primary	Secondary Load				H	W	D			
A-3834	500, 200	4,000, 6,000, 9,500	150	30	C	4 3/16"	3 3/16"	3 3/4"	6.5	\$6.00	\$3.60
A-3866	500, 200	5,000, 6,000, 7,000, 8,000, 9,000, 10,000	150	30	D	4 3/16"	3 3/16"	3 3/4"	6.5	7.25	4.35
A-3867	500, 200	5,000, 6,000, 7,000, 8,000, 9,000, 10,000	225	80	D	4 5/8"	3 7/8"	4 3/8"	10.9	14.00	8.40



TYPE "D"



TYPE "FS"



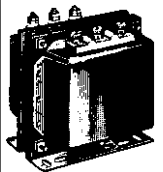
TYPE "A"



TYPE "C"



TYPE "E"



TYPE "F"





MISCELLANEOUS TRANSFORMERS

PLATE TO GRID INTERSTAGE TRANSFORMERS

Stancor Number	From	To	Impedance		Turns Ratio	D.C. Pri. M.A.	Type Mounting	Dimensions			Weight in Carton	List Price	Net Price
			Pri.	Sec.				H	W	D			
A-4205	20,000 ohm plate	Grid	20,000	115,000	2.4:1	15	C	3 1/8"	2 3/8"	2 3/8"	2.5	\$4.25	\$2.44
A-4414	10,000 ohm plate*	Grid	10,000	90,000	3:1	15	E	2 3/8"	2 3/8"	2 3/8"	1.7	2.80	1.68



TYPE "C"

PUSH-PULL INPUT TRANSFORMERS

A-4206*	20,000 ohm plate	P.P. Grids	20,000	180,000	3:1	15	C	3 1/8"	2 3/8"	2 3/8"	2.5	\$3.75	\$2.25
A-4730	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	C	3 1/8"	2 3/8"	2 3/8"	2.5	3.40	2.04



TYPE "E"

PUSH-PULL INTERSTAGE TRANSFORMER

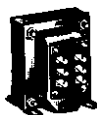
A-4208*	P.P. Plates	P.P. Grids	25,000	18,000	1.39:1	15	C	3 1/8"	2 3/8"	2 3/8"	2.5	\$3.45	\$2.07
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*Split Secondary.

TRANSCEIVER — TRANSFORMERS

Small compact, efficient, light weight transformers for transceiver and aeronautical applications.

Stancor Number	Type	Impedance		D.C. Pri. M.A.	Max. Audio Watts	Type Mounting	Dimensions			Weight in Carton	List Price	Net Price
		Pri.	Sec.				H	W	D			
A-3833	Sgl. Button Mike and Plate to Single Grid	5,000 200	60,000	10	5	A	1 3/8"	2 11/16"	1 1/2"	0.7	\$1.65	\$.99
A-3836	Pentode Plate to Low or High Impedance Phone or Oscillator	10,000 50	2,000	30	5	A	1 3/8"	2 11/16"	1 1/2"	0.7	1.65	.99
A-4413	Sgl. Button Mike and Plate to Single Grid.	10,000 200	90,000	45	10	J	2 3/8"	2 3/4"	2 1/4"	1.5	2.20	1.32



TYPE "D"

PLATE AND SCREEN MODULATION TRANSFORMERS

A-3805	P.P. 6L6 P.P. Par 6L6	AB2 AB1	3,800 3,300	Plate 6250, 12,500 S.G. 950	260	120	60	D	4 3/8"	3 3/8"	3 3/8"	8.0	\$8.20	\$4.92
A-3813	P.P. Par 2-6A6 6N7, 53 P.P. 6L6 P.P. 2A3, 45	B A1 AB	5,000	9400 Plate S.G. 500	150	75	25	C	4 1/16"	3 3/16"	3 3/4"	3.4	6.25	3.75
A-3814	P.P. 10, 801, RK-10, T-20, TZ-20	B	10,000	12,500 plate S. G. 690	130	90	60	C	4 5/8"	3 3/8"	3 3/8"	7.0	7.00	4.20



TYPE "N"

GRID MODULATION TRANSFORMERS

Stancor No.	Output Tubes	Class	Impedance		D.C. Pri. M.A.	D.C. Sec. M.A.	Max. Audio Watts	Type Mounting	Dimensions			Wgt. in Carton	List Price	Net Price
			Pri.	Sec.					H	W	D			
A-3811	1-2A5, 6F6, 42, 59, 89	A	10,000	10,000 sup- pressor grid of single pentode	30	14	5	A	1 1/16"	2 3/8"	1 3/8"	0.5	\$1.00	\$.60
A-3322	1-2A5, 6F6, 42, A 45, 46, 59, 89	A	6,200	7,500 control or suppressor grid of RK-20, RK-20A, RK-28, RCA, 804, RCA 803, etc.	45	22	10	C	3 3/8"	2 3/8"	2 5/8"	3.7	3.50	2.10



TYPE "J"

CATHODE MODULATION TRANSFORMERS

Stancor No.	Impedance		D.C. Pri. M.A.	D.C. Sec. M.A.	Max. Audio Watts	Type Mounting	Dimensions			Wgt. in Carton	List Price	Net Price
	Pri.	Sec.					H	W	D			
A-3888	4000, 6000, C.T.	150, 250, 500, 750, 1000, 1500, 2000, 2500	50	250	25	D	3 1/8"	2 3/8"	3 1/2"	3.0	\$4.25	\$2.55
A-3889	4000, 6000, C.T.	150, 250, 500, 750, 1000, 1500, 2000, 2500	125	450	60	D	3 3/8"	3 1/4"	4 1/4"	4.8	6.00	3.60



TYPE "A"

TECHNICAL SERVICE

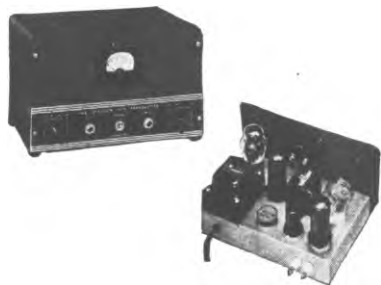
In an endeavor to assure complete satisfaction with Stancor products, the factory maintains a technical Service Department, whose function is to correctly diagnose your transmitter and amplifier problems. All inquiries will be promptly answered if addressed to the (Transmitter) (Amplifier) Service Department, Standard Transformer Corp., 1500 N. Halsted St., Chicago, Ill.

SPECIAL TRANSFORMERS

Our facilities permit unparalleled service in providing special transformers for new tubes and new applications. Your inquiries will receive prompt attention and serious consideration given to the design of efficient units. When ordering, please submit complete specifications of your requirements, allowing sufficient time for their manufacture.



TRANSMITTER KITS



Stancor 10-P Transmitter

The Stancor 10-P kit fulfills the need for an extremely compact phone-CW transmitter. Although thorough in every detail, its circuit simplicity and utter ease of operation delight both the beginner and seasoned amateur alike.

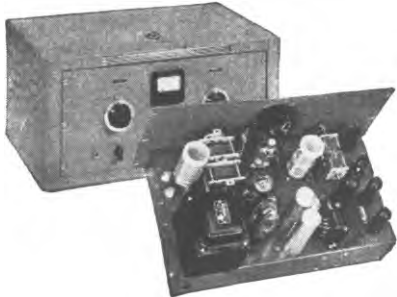
The unique circuit design involves but one inexpensive plug-in coil for each band of operation. Further, only three crystals are used in covering all bands from 20 to 160 meters inclusive. A 6J5 untuned crystal oscillator and a 6L6 amplifier are employed in the radio frequency stages.

For radiophone, a 6L6 in Class A serves both as a speech amplifier and plate modulator. The Class C, R.F. amplifier input ratings are 12 watts phone and 20 watts CW. Break-in procedure is accommodated by the simultaneous keying of both oscillator and amplifier. An 80 is used in the inexpensive, but adequate power supply.

All types of antennae may be applied to the low impedance output terminals.

All of the above mentioned features are self-contained in an attractive 10 $\frac{3}{4}$ " x 6 $\frac{1}{4}$ " x 6 $\frac{1}{2}$ " machine grey, crackle finished cabinet. The appearance is further enhanced by the special front panel escutcheon which has appropriate markings for the controls.

Priced surprisingly low, the 10-P is truly a versatile piece of transmitting equipment. Amateurs' Net Price (less accessories) **\$21.00**



Stancor 110-CM Transmitter

The 110-CM transmitter is a high performance, multi-band, phone-CW unit, conservatively rated at 100 watts input, employing cathode modulation. Compact design permits the entire transmitter, modulator and power supply to be mounted on a 17" x 10" x 3" chassis which can be placed in a standard relay rack or cabinet.

An RCA 812 is excited by a 6L6 "grid-plate" oscillator and cathode modulated by a pair of 6V6's. A 6SJ7 followed by a 6C5 provides adequate speech amplification from a crystal microphone. The operating range is from 1.7 to 30 MC, using only two ready-wound plug-in coils for each band.

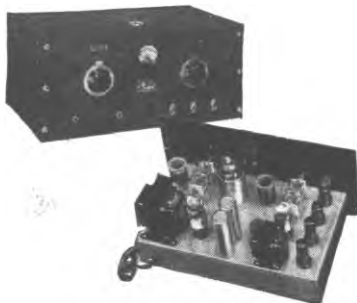
An RK60 and a 5Z3 operate in a dual rectifier system followed by adequate filters to supply all necessary voltages to the various circuits.

A low impedance link-coupled output permits the use of any type of antenna.

Complete metering of all essential circuits is provided by the switching of a 0-200 D.C. milliammeter mounted on the panel.

The Stancor 110-CM is especially applicable to installations requiring radiophone where limited physical space is available. To the "confirmed brass pounder" or "phone man" it offers an economical and simple way to enjoy radiophone without tying up a large investment in modulating equipment.

Amateurs' Net Price (less accessories) **\$48.75**



Stancor 20-P Transmitter

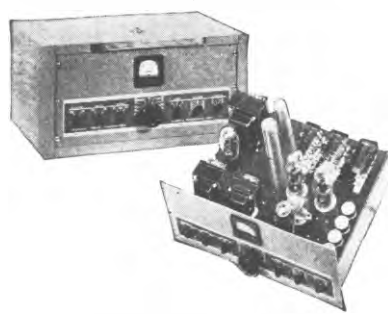
The 20-P transmitter kit is an all band phone-CW rig, conservatively rated at 20 watts input. A 6F6G is used in a harmonic type oscillator circuit to keep the number of crystals for multi-band operation at a minimum. A beam power tetrode such as RK39, 807, or HY61 is employed in the radio frequency amplifier. Only two plug-in coils are used for each band of operation in a circuit arranged to provide the proper LC ratio for all frequencies.

The speech amplifier and modulator tube complement consists of a 6SJ7 input stage, 6C5 voltage amplifier, 6N7 Class A Driver and 6N7 Class B modulator. Sufficient audio power is available to modulate a Class C amplifier input of 20 watts at speech frequencies. High voltage DC power is obtained from a well filtered circuit, utilizing a 5Z3 full wave rectifier tube.

Antenna coupling is accomplished by means of a link coil to provide a low impedance output, adaptable to all antenna types.

The 20-P is a complete phone and CW transmitter, including its AC power supply, fitting in a standard rack type cabinet. In addition to amateur work, the versatility of the 20-P has made it desirable for other communication services, such as police, airport and forestry applications.

Amateurs' Net Price (less accessories) **\$37.00**



Stancor 100-MB Transmitter

The 100-MB is a 100 watt band switching transmitter capable of delivering a strong carrier on any one of three pre-selected adjacent bands at a twist of the wrist. Intra-band flexibility is offered by the choice of any of four crystals.

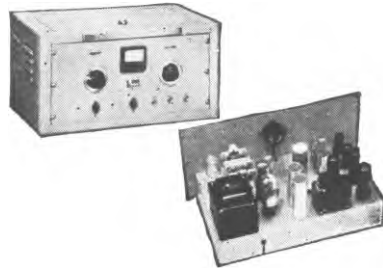
The 100-MB was designed in accordance with the modern amateur Safety Code in which the greatest precautions are taken to secure the operator's safety. There is no high voltage direct current present on the coils or tuning condensers. Safety caps and polystyrene beads on tube plate leads plus a recessed terminal strip, insure freedom from chance contact with R. F. or D. C. at these points.

A 6L6G in a tri-tet drives a pair of beam tubes, such as RCA 807's, RK39's, or HY61's in either push-pull or as a push-push power doubler (on 28 MC band). These tubes offer high gain with no neutralizing problem plus low cost and good efficiency on five bands, 1.7 to 30 MC.

The heavy-duty power supply (using a 5Z3 rectifier) adequately filtered is mounted with the R.F. section on a 17" x 14" x 3 $\frac{1}{2}$ " chassis which can be mounted in a DeLuxe type cabinet.

For radiotelephony, the 100-MB may be combined with the 440-M modulator making a complete phone-CW transmitter.

Amateurs' Net Price (less accessories) **\$42.00**



Stancor 60-P Transmitter

The 60-P presents an entirely self-contained phone-CW transmitter of modern design. Operation may be enjoyed on all amateur bands from 10 to 160 meters inclusive with a rated R.F. amplifier input of 60 watts.

The efficient HK24 tube is employed as a Class C amplifier driven by a 6L6 in a harmonic type of crystal oscillator. Only two plug-in coils are necessary for each band of operation and three crystals suffice for all five bands.

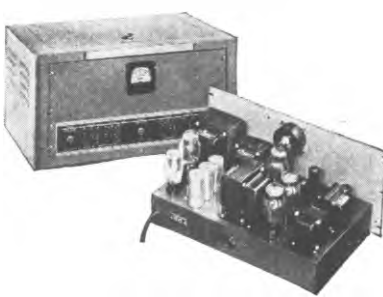
For radiophone, the audio channel consists of a 6SJ7 input stage, a 6N7 voltage amplifier-driver stage, and a pair of 6L6's in Class AB1 as modulators supplying 32 watts of audio. 100% plate modulation of the Class C amplifier is easily attained.

The transmitter is powered by a dual rectification and filtration system, which provides the desired DC high voltages with excellent regulation.

Other features are oscillator keying, ease of adjustment, and low impedance output termination. The standard dimensions of the 17" x 10" x 3" chassis and the 8 $\frac{3}{4}$ " x 19" panel, allow the 60P to be housed in a rack type cabinet or to be mounted on a relay rack.

Here is a transmitter that offers the amateur a compact, moderately powered, commercial type transmitter with which he can realize excellent results.

Amateurs' Net Price (less accessories) **\$44.80**



Stancor 440-M Modulator

The 440-M modulator is a 40 watt unit especially designed to provide radiotelephony when used in conjunction with the Stancor 100-MB or other transmitters with inputs up to 100 Watts.

The 440-M incorporates such important features as separate high and low gain inputs with independent controls, a tone control especially applicable to radiophone communication, an overmodulation indicator, meter switching and fixed modulator grid bias supply.

The high gain input accommodates any low output level microphone, such as the crystal or dynamic types. Phonograph pickups, as well as carbon microphones (suitably coupled through a transformer) may be connected to the low gain terminals.

The tube complement is as follows: A 6SJ7 input amplifier, a 6N7 voltage amplifier and electronic mixer, a 6F6 (triode connected) driver, a pair of 6L6's as Class AB2 modulators, a 45 or 2A3 over-modulation indicator and a 5Z3 high voltage and 80 bias rectifier.

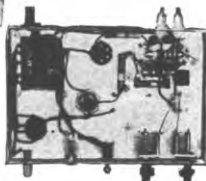
When the 440-M is used with the 100-MB, interlocking switch connections permit simultaneous control of both units.

Modulator and power supply components are all mounted on a 17" x 10" x 3 $\frac{1}{2}$ " chassis suitable for use in a DeLuxe or Standard single section rack cabinet.

Amateurs' Net Price (less accessories) **\$37.50**



TRANSMITTER KITS



Stancor 25-B Transmitter

The 25-B meets the requirements for a simple 6L6 transmitter with self-contained antenna tuning. Operates on CW only with 25 watts input from 160 to 10 meters. The rig incorporates only the essentials, leaving off all the trimmings. Simplicity of circuit detail, construction, and operation will satisfy the beginner as well as the seasoned amateur.

The 6L6 oscillator circuit is of the regenerative type using R. F. choke in the cathode. For the experimenter provision is made for other types of oscillator circuits such as triode, etc. Power supply using type 80 tube. Large choke and condenser insures well filtered supply as required by regulations. Bleeder provides safe discharge of condensers and better voltage regulation. No high voltage on top of chassis.

Output may be connected to either low impedance or variable impedance matching network. Link coupling, various type feeder lines, or all types of antenna may be connected and easily tuned. Standard coils and crystals are used to cover all bands.

Pilot light serves as tuning indicator and fuse. Keys in clean cut manner, suitable for break-in operation.

All parts mount on a chassis 9 $\frac{1}{2}$ " x 6 $\frac{1}{2}$ " x 2". Amateurs' Net Price (less accessories) **\$12.75**



Stancor 30-M Transmitter

The 30-M transmitter, rated at 23 watts output, operates from 6 volt storage battery. Designed to meet requirements for mobile communication as used by law enforcement groups. For amateur portable or emergency.

Delivers crystal controlled 100 per cent modulation. Frequency range 28 to 42 MC. Uses 4 low-drain quick-heating tubes as follows: HY69 triode oscillator-doubler, HY69 doubler and modulated R. F. output, HY69 (pentode connected) Class A modulator, and 6A4 (triode connected) speech amplifier.

Speech input accommodates single button carbon microphone with press-to-talk switch.

No battery power used until switch on microphone pressed. Relays instantly put transmitter on air.

Antenna coupling coil and tuning condenser provide suitable match to any standard system using low impedance feed line.

Selective meter switch for reading all currents with meter installed permanently, or leads plugged in jack temporarily.

Tuning is accomplished by removing hole plugs. Mechanically rigid, dust proof, and well shielded. Tubes, crystal, and tuning condensers can be firmly locked in place.

Either vibrator or generator power supply may be used with transmitter. Overall size 15 $\frac{1}{2}$ " x 10" x 8". Weight—39 lbs. Amateurs' Net Price (less accessories) **\$41.00**



Stancor 12-E Transmitter

The 12-E is a small, compact transmitter which will operate from a 6 volt storage battery at a low current drain of 8 amperes. Amateur phone or CW operation make it just the thing for isolated locations, portable, or emergency communication.

Operates and tunes easily on all bands from 160 to 40 meters using standard plug-in coils with an input of 12 watts.

Crystal control separate from modulated stage is used thus assuring proper frequency control at all times and meeting regulation requirements.

Tubes used are all quick-heating 6A4's as follows: One for untuned crystal oscillator, two paralleled for plate modulated output stage, and one for speech-modulator.

Provision is made for using either an internal vibrator supply or external "B" supply. Variable impedance matching network makes it possible to connect any type of antenna.

Tuning is accomplished with aid of R.F. indicating neon bulb, or a meter may be plugged in during adjustment. Fuse protection guards against burnouts. Filter circuit and proper wiring arrangement eliminates all hum or "hash." Dimensions of chassis are 7" x 12" x 3", and weight—16 lbs.

Amateurs' net price (less accessories) **\$14.50**

STANCOR AMPLIFIER KITS



Stancor 414 Amplifier

The 414 is an economical and compact A. C. amplifier with 14 watts output. Excellent audio response makes it ideal for small public address systems, window demonstrators, phonograph players, etc.

Incorporates two high impedance input circuits as follows: One high gain input for medium output microphones such as crystal, velocity, or dynamic, and one low gain input for phonograph pickup or carbon microphone (must be properly coupled through transformer). A single volume control is used for fading in either input.

Includes tone control for attenuating high audio frequencies.

Output transformer tapped to provide impedances of 4, 8 and 15 ohms.

Tubes used are: 6SJ7 high gain input, 6C5 voltage amplifier, push pull 6L6's (pentode connected) Class A output, and 80 high voltage rectifier.

Entire unit includes punched chassis, panel, and 10" x 6 $\frac{1}{4}$ " x 6 $\frac{1}{2}$ " cabinet, finished in wrinkle gray. An escutcheon plate clearly marks inputs and controls.

A jeweled pilot light is a ready indication that amplifier has been turned on. Amateurs' Net Price (less accessories) **\$18.00** J-74



Stancor 415 Amplifier

The 415 is the popular 15 watt amplifier especially adapted to many public address systems and ideal as a modulator or driver for high output modulators or P. A. boosters.

All inputs are high impedance as follows: two high gain and one low gain inputs. Two volume controls may be used for mixing. Sufficient gain for low output level microphones, such as crystal, dynamic, or velocity types.

Dual tone control unit allows independent control of either high or low frequencies.

Regular output transformer tapped at 4, 8, 15, and 500 ohms. Other transformers available for use as driver or modulator.

A peak limiting circuit can be added for use in modulator as percent modulation control or for use in P. A. as automatic volume control of speech only.

The tube complement is as follows: two 6SJ7 high gain input channels, 6N7 voltage amplifier and electronic mixer, 6N7 (parallel triode connected) driver, push pull 2A3's as Class AB power amplifier, 5Z3 high voltage rectifier, and 80 bias voltage rectifier.

Chassis is of standard size 17" x 10" x 3", and can be fitted with dust cover or made to fit rack relay mounting.

Amateurs' Net Price (less accessories) **\$31.50**

Net



Stancor 430 Amplifier

The 430 amplifier for public address system delivers a full 30 watts of undistorted audio power. Frequency response is uniform from 50 to 15,000 cycles.

All inputs are high impedance as follows: two high gain and one low gain inputs. Two volume controls may be used for mixing. Sufficient gain for low output level microphones such as crystal, dynamic, or velocity types.

Dual tone control unit allows independent control of either high or low frequencies.

Output transformer provides impedances of 4, 8, 15, 250, or 500 ohms.

A simple peak limiting circuit can be added, if desired, for use in P. A. as automatic volume control of speech only.

The tube complement is as follows: two 6SJ7 high gain input channels, 6N7 voltage amplifier and electronic mixer, 6F6 (triode connected) driver, push pull 6L6's (pentode connected) Class AB1 output, and 5Z3 high voltage rectifier.

Special circuit for increasing bass response. Well filtered power supply insures clear reproduction without disturbing noises.

Chassis is of standard size 17" x 10" x 3", and can be fitted with dust cover or made to fit rack relay mounting.

Amateurs' Net Price (less accessories) **\$33.50**



Audio (A) Transformers



AUDIO (A) INTERSTAGE TRANSFORMERS

For coupling the plate or plates of an amplifier stage to the grid or grids of the next stage where grid current is not drawn. C. H. T. interstage audio transformers have hum-bucking coil construction and balanced windings. Frequency response, using

parallel feed in the primary winding, is flat within $\pm 1\frac{1}{2}$ db from 60 to 8,000 c.p.s. Compound filled cases fully protect the coils from adverse climatic conditions.

Type No.	List Price	Classification	Ohms Impedance		Pri. M.A.	Turns Ratio	Mtg. Fig.	Mtg. Centers		Dimensions			Wt. Lbs.
			Pri.	Sec.				Width	Depth	W.	D.	H.	
Single Plate To Single Grid													
T-13A34	\$1.35	Receiver (midget)	10,000	90,000	8	3:1	3B	2 $\frac{3}{8}$	2 $\frac{1}{8}$	1 $\frac{5}{8}$	1 $\frac{3}{8}$	$\frac{3}{4}$	
T-29A99	1.75	Receiver	10,000	90,000	8	3:1	2B	2 $\frac{3}{8}$	2 $\frac{1}{8}$	2	2 $\frac{3}{8}$	1 $\frac{1}{4}$	
T-57A36	2.00						2F	2 $\frac{3}{8}$	2 $\frac{1}{8}$	2 $\frac{1}{8}$	2 $\frac{3}{8}$	1 $\frac{1}{2}$	
T-57A38	2.75	Amplifier	10,000	90,000	8	3:1	2F	2 $\frac{3}{8}$	3 $\frac{3}{8}$	2 $\frac{1}{2}$	3	2 $\frac{1}{4}$	
T-15A73	6.50	C.H.T.	10000/2500	40000/10000	10*	2:1	3L	2 $\frac{1}{8}$	2 $\frac{3}{4}$	3	3 $\frac{11}{16}$	2 $\frac{1}{4}$	
Maximum Signal Level + 15 db *Parallel feed recommended.													

Single Plate To Push-Pull Grids												
T-14A92	\$1.25	Receiver (midget)	10,000	90,000	8	3:1	3B	2	2 $\frac{3}{8}$	1 $\frac{3}{8}$	1 $\frac{3}{8}$	$\frac{1}{2}$
T-13A35	1.50	Receiver (midget)	10,000	90,000	8	3:1	3B	2 $\frac{3}{8}$	2 $\frac{3}{8}$	1 $\frac{3}{8}$	1 $\frac{3}{8}$	$\frac{3}{4}$
T-33A91	2.00	Receiver	10,000	90,000	8	3:1	2B	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2	2 $\frac{3}{8}$	1 $\frac{1}{4}$
T-57A39	2.25						2F	2 $\frac{3}{8}$	2 $\frac{3}{4}$	2 $\frac{1}{8}$	2 $\frac{3}{8}$	1 $\frac{1}{2}$
T-57A40	2.75	Amplifier	10,000	90,000	8	3:1	2B	2 $\frac{3}{8}$	3 $\frac{3}{8}$	2 $\frac{1}{8}$	3	2
T-57A41	3.00						2F	2 $\frac{3}{8}$	3 $\frac{3}{8}$	2 $\frac{1}{2}$	3	2 $\frac{1}{4}$
T-74A31	3.25	Amplifier	10,000	10,000	8	1:1	2F	2 $\frac{3}{8}$	3 $\frac{3}{8}$	2 $\frac{1}{2}$	3	2 $\frac{1}{4}$
T-57A42	3.25	Receiver (large)	10,000	90,000	8	3:1	2B	2 $\frac{3}{8}$	3 $\frac{3}{8}$	2 $\frac{1}{8}$	3	2
For coupling screen grid or power detector (Clarion AC-60)												
T-15A74	6.50	C.H.T.	10,000/2,500	40,000/10,000	10*	2:1	3L	2 $\frac{1}{8}$	2 $\frac{3}{4}$	3	3 $\frac{11}{16}$	2 $\frac{1}{4}$
Max. signal level + 15 db *Parallel feed recommended.												

Push-Pull Plates To Push-Pull Grids												
T-13A36	\$2.00	Receiver (midget)	20,000	20,000	8†	1:1	3B	2 $\frac{3}{8}$	3	1 $\frac{3}{4}$	2	1
T-58A70	3.25	Amplifier—Split Secondary	20,000	45,000	10†	1.5:1	2F	2 $\frac{3}{8}$	3 $\frac{3}{8}$	2 $\frac{1}{2}$	3	2 $\frac{1}{4}$
T-15A75	7.00	C.H.T.	20,000/5,000	45,000/11,250	10†	1.5:1	3L	2 $\frac{1}{8}$	2 $\frac{3}{4}$	3	3 $\frac{11}{16}$	2 $\frac{1}{4}$
Maximum signal level + 15 db												

Universal Interstage Replacement Transformer												
Will couple single plate to single grid, single plate to push-pull grids or push-pull plates to push-pull grids. Has split secondary.												
T-17A02	\$2.25	Receiver	Universal		10	3:1	2F	2 $\frac{3}{8}$	2 $\frac{3}{4}$	2 $\frac{1}{8}$	2 $\frac{3}{8}$	1 $\frac{1}{2}$

Low Impedance Source (Microphone, Line or Mixer) to Grid												
T-65A73	\$2.75	DB mike to grid	200/50	100,000	1:22.2	2F	2 $\frac{3}{8}$	3 $\frac{3}{8}$	2 $\frac{1}{2}$	3	2	
T-58A37	2.25	DB mike to grid	200/50	100,000	1:22.2	2F	2 $\frac{3}{8}$	2 $\frac{3}{4}$	2 $\frac{1}{8}$	2 $\frac{3}{8}$	1 $\frac{1}{2}$	
T-83A78	2.00	Single button mike to single or P-P grids	100	400,000 Ct.	1:64	2F	2 $\frac{3}{8}$	2 $\frac{1}{2}$	1 $\frac{3}{8}$	2 $\frac{3}{4}$	1 $\frac{1}{4}$	
T-86A02	1.75					2B	2 $\frac{3}{8}$	2 $\frac{1}{8}$	1 $\frac{3}{4}$	2 $\frac{3}{8}$	1	
T-55A16	2.75	Dyn. mike, line or mixer to single or P-P grids	200/50	100,000 Ct.	1:22.3	2F	2 $\frac{3}{8}$	2 $\frac{1}{2}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$	1 $\frac{1}{2}$	
T-61A94	3.25	Line to single or P-P C.I.A grids	500/125	100,000 Ct.	1:14.1	2F	2 $\frac{3}{8}$	3 $\frac{3}{8}$	2 $\frac{1}{2}$	3	2 $\frac{1}{4}$	
T-72A59	1.65	Plate and Single Button microphone to grid	5,000/200	100,000	1:3.25/1:35	2B	2 $\frac{1}{8}$	2 $\frac{1}{8}$	1 $\frac{5}{8}$	2	$\frac{3}{4}$	
T-14A94	2.50	Voice Coil to grid	4-8	100,000	1:11.2	2B	2 $\frac{3}{8}$	2 $\frac{1}{8}$	1 $\frac{3}{4}$	2 $\frac{3}{8}$	1	
T-15A66	7.25	C.H.T. Low Impedance to grid	500/333/250/200/125/50	60,000/15,000 Single Grid	1:10.95	3L	2 $\frac{1}{8}$	2 $\frac{3}{4}$	3	3 $\frac{11}{16}$	2 $\frac{1}{4}$	
T-15A67	8.00	C.H.T. Low Impedance to P-P grids	500/333/250/200/125/50	120,000/30,000 P-P Grids	1:15.5	3L	2 $\frac{1}{8}$	2 $\frac{3}{4}$	3	3 $\frac{11}{16}$	2 $\frac{1}{4}$	
T-15A68	8.00	C.H.T. Low Impedance to single grid	60/38/30/22/15/10/5.5/2.5	60,000/15,000 Single Grid	1:31.6	3L	2 $\frac{1}{8}$	2 $\frac{3}{4}$	3	3 $\frac{11}{16}$	2 $\frac{1}{4}$	
T-17A42	9.00	C. H. T. MAGNETICALLY SHIELDED	500†/333/250/200†/125/50	50,000 Single Grid	1:10	3U	2 $\frac{3}{8}$	2	2 $\frac{1}{8}$	2 $\frac{3}{8}$	3 $\frac{1}{2}$	1 $\frac{1}{4}$
Min. level—20 db.												

Microphone or Line to Mixer or Line												
T-70A83	\$3.50	Crystal mike to line or mixer	100,000	200/50	1:22.4	2F	2 $\frac{3}{8}$	3 $\frac{3}{8}$	2 $\frac{1}{2}$	3	2 $\frac{1}{4}$	
T-15A69	7.25	C.H.T. Low Impedance to mixer or line	500/333/250/200/125/50	500/333/250/200/125/50	1:1	3L	2 $\frac{1}{8}$	2 $\frac{3}{4}$	3	3 $\frac{11}{16}$	2	
T-15A70	7.50	C.H.T. Dyn. mike to mixer or line	60/38/30/22/15/10/5.5/2.5	500/333/250/200/125/50	1:2.88	3L	2 $\frac{1}{8}$	2 $\frac{3}{4}$	3	3 $\frac{11}{16}$	2	

*Indicates Primary M.A.

Tube to Line or Mixer (Low Level)												
T-14A90	\$2.50	Sgl. or P-P Plates to line or mixer	20,000 Ct.	500/125	8*	2F	2 $\frac{3}{8}$	2 $\frac{3}{4}$	2 $\frac{1}{2}$	2 $\frac{3}{8}$	1 $\frac{1}{2}$	
T-14A91	2.50			(200/50 — for T-14A91 only.)								
T-72A59	1.65	Plate and sgl. button mike to grid	5,000 and 200	100,000	10*	2B	2 $\frac{1}{8}$	2 $\frac{1}{8}$	1 $\frac{5}{8}$	2	$\frac{3}{4}$	
T-15A71	7.25	C.H.T. single plate to line or mixer.	20,000/5,000 Single Plate	500/333/250/200/125/50	8*	3L	2 $\frac{1}{8}$	2 $\frac{3}{4}$	3	3 $\frac{11}{16}$	1 $\frac{1}{4}$	
T-15A72	7.25	C.H.T. P-P plates to line or mixer.	20,000/5,000 P-P Plates	500/333/250/200/125/50	0*	3L	2 $\frac{1}{8}$	2 $\frac{3}{4}$	3	3 $\frac{11}{16}$	1 $\frac{1}{4}$	
T-17A43	9.00	C.H.T. MAGNETICALLY SHIELDED	10,000 to 15,000	500†/333/250/200†/125/50	0	3U	2 $\frac{3}{8}$	2	2 $\frac{1}{8}$	2 $\frac{3}{8}$	3 $\frac{1}{2}$	1 $\frac{1}{4}$

† Balanced center tap.

We can supply all Thordarson products. Ask for complete Thordarson catalog.



3B



2B



2F



3L



3U

MICROPHONE CABLE TRANSFORMERS

Permit quick and efficient change from high to low impedance microphone input on any amplifier. Hum pick-up is reduced to a minimum through the use of magnetic shielding. These Microphone Cable transformers, exclusively Thordarson, are

connected in series with the microphone cable and the amplifier input connector and are small and inconspicuous. Frequency Response $\pm 1\frac{1}{2}$ db from 30 to 15,000 c.p.s.



3Z

Type No.	List Price	Application	Ohms Impedance		Turns Ratio	Mtg. Fig.	Dimensions			Wt. Lbs.
			Pri.	Sec.			W.	D.	H.	
T-14A75	\$14.50	Low impedance mic. to high impedance input	30-50	50,000	1:31.6	3Z	1	1	2 $\frac{3}{8}$	3 $\frac{1}{2}$
T-14A76	14.50		200-250	50,000	1:14.14	3Z	1	1	2 $\frac{3}{8}$	3 $\frac{1}{2}$



2F

CHOKES AND REACTORS (C)

Parallel Feed Audio Reactors

For supplying plate current to a vacuum tube where it is desirable to isolate plate current from the transformer primary or where the voltage drop caused by a resistor load is objectionable.

Type No.	List Price	Application	Typical Tubes	Induct. Hen.	Cur. M.A.	D.C. Ohms	R.M.S. Test Volts	Mtg. Fig.	Mtg. Centers		Dimensions			Wt. Lbs.
									Width	Depth	W.	D.	H.	
T-37C36	\$2.00	Plate Impedance	56-30-76-6C5-55-85, etc.	300	5	6470	1600	2F	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
T-67C46	1.75							2B	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2	2 $\frac{3}{8}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
T-52C98	1.75	Plate Impedance for screen Grid detector or as grid impedance	24-57-56-76-6C5-6F5-6J7	700	.5	6150	1600	2F	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$	1 $\frac{1}{4}$	1 $\frac{1}{4}$
T-29C27	1.50							2B	2 $\frac{3}{8}$	2 $\frac{3}{8}$	1 $\frac{3}{4}$	2 $\frac{3}{8}$	1	1
T-68C08	1.75	Plate Impedance or Filter	45-46-10, etc.	22	35	405	1600	2F	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
T-18C92	1.50							3B	2 $\frac{3}{8}$	3 $\frac{3}{8}$	2	2	1 $\frac{1}{2}$	1 $\frac{1}{2}$
T-15C52	5.00	C.H.T. Plate Impedance	6C5-6A6-6F8G	30 Parallel	35	1600	1600	3L	2 $\frac{1}{2}$	2 $\frac{3}{8}$	3	3 $\frac{1}{2}$	3	3
T-15C53	5.50		6U5-6L5G-7A4												120 Series	17	17	3$\frac{1}{2}$	3$\frac{1}{2}$
T-15C54	5.50	C.H.T. Plate Impedance	6V6-6F6-6E6	12 Parallel	50	1600	1600	3L	2 $\frac{1}{2}$	2 $\frac{3}{8}$	3	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$
T-15C54	5.50		2A3-6A3-6A5G												8 Parallel	150	75	3L	2$\frac{1}{2}$	2$\frac{3}{8}$	3	3$\frac{1}{2}$	3$\frac{1}{2}$



2B

Tuned Audio Circuit Reactors

T-81C15	\$2.50	Tuned Audio Circuits	.75	.5	30	2B	2 $\frac{1}{2}$	2 $\frac{3}{8}$	1 $\frac{1}{2}$	2	3 $\frac{1}{4}$
T-93C20	3.00	Tuned Audio Circuits	250	.5	6400	2B	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2	2 $\frac{3}{8}$	1 $\frac{1}{2}$
T-74C30	1.50	Tuned Audio Circuits or Filter	42	15	2100	2B		2	1 $\frac{1}{2}$	2 $\frac{3}{8}$	1



3L

DUAL TONE CONTROL COMPONENTS

T-14C70	2.50	Tone Control, hum-bucking type	22	0	220	3Y	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	2 $\frac{1}{4}$	1 $\frac{1}{2}$
R-1068	2.50	Dual tone control potentiometer									



3B

FILTER CHOKES

Thordarson filter reactors are rated in henries under actual working conditions. It is well known that as the D.C. current in a choke increases, there is a corresponding decrease in inductance. In selecting a filter choke from this listing, full assurance may be had that inductance rating has been measured under full operating load conditions.

Replacement Filter Chokes

Type No.	List Price	Inductance		Current Rating M.A.	D.C. Res. Ohms	R.M.S. Test Volts	Mtg. Fig.	Mtg. Centers		Dimensions			Wt. Lbs.
		At Zero D.C.	At Rated D.C.					Width	Depth	W.	D.	H.	
T-13C26	\$.90	21	8	40	530	1600	3B	2	2 $\frac{3}{8}$	1 $\frac{3}{8}$	1 $\frac{3}{8}$	1 $\frac{3}{8}$	1 $\frac{1}{2}$
T-13C27	1.10	22	10	40	475	1600	3B	2 $\frac{3}{8}$	2 $\frac{3}{8}$	1 $\frac{3}{8}$	1 $\frac{3}{8}$	1 $\frac{3}{8}$	1 $\frac{1}{2}$
T-13C28	1.20	20	10	65	460	1600	3B	2 $\frac{3}{8}$	3	1 $\frac{3}{4}$	2	1	1
T-43C92	1.65	24	10	75	260	1600	2C	1 $\frac{1}{2}$	1 $\frac{1}{2}$	2	1 $\frac{1}{2}$	2 $\frac{3}{8}$	1 $\frac{1}{4}$
T-47C07	1.65	20	12	75	410	1600	3B	3 $\frac{1}{8}$	3 $\frac{1}{8}$	1 $\frac{1}{2}$	2 $\frac{1}{4}$	1 $\frac{1}{4}$	1 $\frac{1}{4}$
T-44C02	1.50	31	12	80	405	1600	3B	2 $\frac{3}{8}$	3 $\frac{1}{2}$	2	2	1 $\frac{1}{4}$	1 $\frac{1}{4}$
T-57C51	1.50	15	6	80	138	1600	2B	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2	2 $\frac{3}{8}$	1 $\frac{1}{4}$	1 $\frac{1}{4}$
T-13C29	1.60	20	9	85	250	1600	3B	2 $\frac{3}{8}$	3 $\frac{3}{8}$	2	2	1 $\frac{1}{2}$	1 $\frac{1}{2}$
T-68C07	2.00	32	15	85	375	1600	2B	2 $\frac{3}{8}$	3 $\frac{3}{8}$	2 $\frac{1}{2}$	3	3	2
T-57C53	2.00	27	10	110	200	1600	2B	2 $\frac{3}{8}$	3 $\frac{3}{8}$	2 $\frac{1}{2}$	3	2 $\frac{1}{4}$	2 $\frac{1}{4}$
T-75C49	1.50	22	8	120	290	1600	3B	2 $\frac{3}{8}$	3 $\frac{3}{8}$	2	2	1 $\frac{1}{2}$	1 $\frac{1}{2}$
T-53C19	1.50						2B	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2	2 $\frac{3}{8}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
T-13C30	2.00	25	8	150	200	1600	2B	2 $\frac{3}{8}$	3 $\frac{3}{8}$	2 $\frac{1}{2}$	3	2 $\frac{1}{4}$	2 $\frac{1}{4}$

Filter Chokes for Replacement in AC-DC Receivers

T-14C61	\$1.00	14	7	55	200	1600	3B	2 $\frac{3}{8}$	2 $\frac{3}{8}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
T-14C62	1.00	16	8	55	250	1600	3B	2 $\frac{3}{8}$	2 $\frac{3}{8}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
T-14C63	1.00	19	8	55	300	1600	3B	2 $\frac{3}{8}$	2 $\frac{3}{8}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
T-14C64	1.00	21	10	55	350	1600	3B	2 $\frac{3}{8}$	2 $\frac{3}{8}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$

Filter Chokes for Amplifiers and Small Transmitters

T-57C52	\$1.75	15	5	80	138	1600	2F	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2 $\frac{1}{2}$	2 $\frac{3}{8}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
T-16C07	2.25	32	15	85	375	1600	2F	2 $\frac{3}{8}$	3 $\frac{3}{8}$	2 $\frac{1}{2}$	3	2 $\frac{1}{4}$	2 $\frac{1}{4}$
T-57C54	2.25	27	10	110	200	1600	2F	2 $\frac{3}{8}$	3 $\frac{3}{8}$	2 $\frac{1}{2}$	3	2 $\frac{1}{4}$	2 $\frac{1}{4}$
T-49C91	1.50	12	4	120	160	1600	2F	2 $\frac{3}{8}$	2 $\frac{3}{8}$	1 $\frac{1}{2}$	2 $\frac{3}{8}$	1 $\frac{1}{4}$	1 $\frac{1}{4}$
T-17C00-B	2.75	28	12	150	231	1600	2F	3 $\frac{3}{8}$	3 $\frac{3}{8}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$
T-74C29	3.75	29	15	150	200	2000	2G	2 $\frac{3}{8}$	2 $\frac{3}{8}$	3 $\frac{3}{8}$	3 $\frac{3}{8}$	4 $\frac{1}{2}$	5 $\frac{1}{4}$
T-67C49	2.75	12	5	200	80	1600	2F	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$
T-75C51	5.00	24	13	250	121	1600	2G	3	3	4 $\frac{1}{2}$	4 $\frac{1}{2}$	8	8



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Chokes (C) — Driver (D) Transformers



CHOKES (C)

Type No.	List Price	Inductance Henries	Current M.A.	R.M.S. Test Volts	D.C. Res.	Mtg. Fig.	Mtg. Centers		Dimensions			Wt. Lbs.
							Width	Depth	W.	D.	H.	
T-15C54	\$5.50	8 Parallel 32 Series	150 75	1,600	184 735	3L	2 1/4		2 1/4	3	3 H	3 1/2
T-15C55	7.00	2 Parallel 8 Series	500 250	1,600	32 130	3L	3 1/2	2 1/4	4	4 1/2	4 3/4	7 1/2

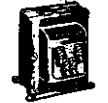


3L

TRANSMITTER INPUT AND FILTER CHOKES

Matched input and smoothing chokes for amateur, amplifier or experimental applications. Inductance values are measured under full load conditions and adequate insulation is provided for recommended service.

Type No.	List Price	Current D.C. M.A.	Inductance Henries	D.C. Res. Ohms	R.M.S. Test Volts	Mtg. Fig.	Mtg. Centers		Dimensions			Wt. Lbs.
							Width	Depth	W.	D.	H.	
Input Chokes "19" Series												
T-19C39	\$3.25	150	5-20	215	3000	2F	3 3/8		3 3/8	3 3/8	3 1/2	3 3/4
T-19C35	4.00	200	5-20	180	3000	2D	3 1/4	2 1/4	3 3/4	3 3/8	4	5 1/2
T-19C36	6.50	300	5-20	105	5000	2D	2 3/4	3 1/8	3 3/8	4 7/8	4 3/8	10 3/4
T-19C37	10.00	400	5-20	90	5000	2J	3 1/4	3 1/8	4 1/4	5 3/8	6 1/8	19 1/2
T-19C38	14.00	500	5-20	75	5000	2J	3 3/8	3 3/4	5	5 1/2	6 3/8	25 1/4
Smoothing Chokes "19" Series												
T-19C46	\$3.25	150	12	215	3000	2F	3 3/8		3 3/8	3 3/8	3 1/2	3 3/4
T-19C42	4.00	200	12	130	3000	2D	3 1/4	2 1/4	3 3/4	3 3/8	4	5 1/2
T-19C43	6.50	300	12	105	5000	2D	2 3/4	3 1/8	3 3/8	4 7/8	4 3/8	10 3/4
T-19C44	10.00	400	12	90	5000	2J	3 1/4	3 1/8	4 1/4	5 3/8	6 1/8	19 1/2
T-19C45	14.00	500	12	75	5000	2J	3 3/8	3 3/4	5	5 1/2	6 3/8	25 1/4



2D

C.H.T. TRANSMITTER CHOKES

Conservatively designed for continuous and quiet operation. Cases are compound filled for complete coil protection.

C.H.T. Input Chokes												
Type No.	List Price	Current D.C. M.A.	Inductance Henries	D.C. Res. Ohms	R.M.S. Test Volts	Mtg. Fig.	Mtg. Centers		Dimensions			Wt. Lbs.
							Width	Depth	W.	D.	H.	
T-15C36	\$8.00	200-20	5-25	105	4,000	3L	2 3/8	3 1/2	4 1/8	4 1/2	4 1/8	10
T-15C37	10.00	300-30	5-25	78	4,000	3L	3 3/8	4 1/2	5 3/8	5 3/8	6 3/4	22
T-15C38	14.00	400-30	5-25	95	4,000	3L	3 3/8	4 3/8	5 3/8	5 3/8	6 3/4	24
T-15C39	22.00	500-30	5-25	86	10,000	3L	4 3/8	5 3/8	5 3/8	7 3/8	8 1/4	38 1/2
T-15C41	26.50	650-50	5-25	46	10,000	3L	5 3/8	6 3/8	7	7 3/8	8	51
C.H.T. Smoothing Chokes												
T-15C45	\$8.00	200	12	105	4,000	3L	2 3/8	3 1/2	4 1/8	4 1/2	4 1/8	10
T-15C46	10.00	300	12	78	4,000	3L	3 3/8	4 3/8	5 3/8	5 3/8	6 3/4	22
T-15C47	14.00	400	12	95	4,000	3L	3 3/8	4 3/8	5 3/8	5 3/8	6 3/4	24
T-15C48	22.00	500	12	86	10,000	3L	4 3/8	5 3/8	5 3/8	7 3/8	8 1/4	38 1/2
T-15C50	26.50	650	12	46	10,000	3L	5 3/8	6 3/8	7	7 3/8	8	51



2J

DRIVER (D) TRANSFORMERS

For coupling the plate or plates of an amplifier stage to the grids of an amplifier stage in which grid current is drawn during a part of the audio cycle.

Type No.	List Price	Driver Tubes	Output Tubes	Class	Ratio Pri. to 1/2 Sec.	Pri. Mtg. M.A. Fig.	Mtg. Centers		Dimensions			Wt. Lbs.
							Width	Depth	W.	D.	H.	



2F

DRIVER TRANSFORMERS FOR SPECIFIC APPLICATIONS

These driver transformers have the correct primary to secondary ratio for the tubes specified, which assures good regulation and minimum driver distortion on the positive grid peaks. The first three types are specifically designed for replacement requirements.

T-78D46	\$1.50	1-30	1-1J6G, 19 2-30	B B	2.4:1	7 2B	2 1/2		2 3/8	1 3/8	2	3/4
T-17D01	2.00	1-6F6 Triode 1-42 Triode, 1-2A5 Triode	2-6F6, 6L6, etc.	AB	1.7:1 1.5:1, 1.3:1	31 3B	2 1/2		3 3/8	2	2	1 1/2
T-14D93	1.75	1-76 Triode	1-6A6, 6N7	B	4:1	8 3B	2 3/8		2 3/8	1 3/8	1 3/8	3/4
T-19D06	2.75	1-6A6, 1-6N7, 1-6C5	1-6A6, 6N7	B	5:1, 4:1, 3:1, 2.5:1	10 2F	2 3/8		2 3/8	2 3/8	2 3/8	1 1/2
T-54D63	2.25	1-30, 1-49, 1-6C5	1-1J6G, 19, 2-49, 2-6V6 B, AB2	B, AB2	2.4:1	7 2F	2 3/8		2 3/8	1 3/8	2 3/8	1 1/2
T-67D47	2.50	1-6N7, 6A6, 53	1-6N7, 6A6, 53	B	5.25:1	10 2F	2 3/8		2 3/8	1 3/8	2 3/8	1 1/2
T-81D52	3.25	1-6C5, 76 1-56	2-6F6 Triode 2-42, 2A5 Triode	AB AB	1.82:1 1.67:1	8 2F	2 3/8		3 3/8	2 1/2	3	2 1/4
T-84D59*	3.25	2-6C5, 6N7 2-6A6, 53	2-6L6, 6V6 2-6N7, 6A6, 53	AB2 B	5:1	10 2F	2 3/8		3 3/8	2 1/2	3	2 1/4
T-74D32	3.25	2-6C5, 76, 56	2-6F6, 42, 2A5 4-2A3, 6B4G	AB2 AB	3:1	10 2F	2 3/8		3 3/8	2 1/2	3	2 1/4
T-81D42	3.25	1-6F6 Triode 1-42 Triode 1-2A5 Triode	2-6F6 Triode 2-42 2-2A5 Pentode	AB2 AB2 AB2	1.7:1 1.5:1 1.3:1	31 2F	2 3/8		3 3/8	2 1/2	3	2 1/4
T-17D03*	4.50	1-6F6 Triode	2-6L6	AB2	1.4:1	40 2F	3 3/8		3 3/8	3 1/2	3 1/2	3 1/2
T-17D04*	4.50	2-6F6	4-6L6	AB2	2.6:1	32 2F	3 3/8		3 3/8	3 1/2	3 1/2	3 1/2
T-67D78	3.00	1-46, 59, 6F6, 42, 2A5 Triode	2-46, 59 2-6L6	B AB2	2.2:1	32 2F	2 3/8		3 3/8	2 1/2	3	2 1/4

*Split secondary as required for inverse feedback and separate power tube bias.



2B

Line-to-Grid Driver Transformers (High Level)

T-83D21	\$3.50	Line 500 ohms	2-6L6, 50 12,500/5,100 Ohms	AB	1:3.2, 1:5	2F	2 3/8		3 3/8	2 1/2	3	2 1/4
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3B

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UNIVERSAL AND MULTI-MATCH DRIVER (D) TRANSFORMERS

Versatility of application reduces to a minimum transformer obsolescence which is a costly problem to the amateur in these days of rapid tube development. Through the use of five ratios

on each transformer, these transformers will handle all driver requirements usually encountered in amateur transmitter circuits.



4D

Type No.	List Type	Cap. Watts	Max. Pri. M.A. Per Side	Ratio Pri. to 1/2 Sec.	Mtg. Fig.	Mtg. Centers		Dimensions			Wt. Lbs.
						Width	Depth	W.	D.	H.	
Universal Driver Transformers "19" Series											
T-19D01	\$6.00	15	60	1:1, 1.2:1, 1.4:1, 1.6:1, 1.8:1	4D	3 3/8	2 3/8	3 3/8	3 3/8	3 1/2	3 1/2
T-19D02	6.00	15	60	2:1, 2.2:1, 2.4:1, 2.6:1, 2.8:1	4D	3 3/8	2 3/8	3 3/8	3 3/8	3 1/2	3 1/2
T-19D03	6.00	15	60	3:1, 3.2:1, 3.4:1, 3.6:1, 3.8:1	4D	3 3/8	2 3/8	3 3/8	3 3/8	3 1/2	3 1/2
T-19D04	6.00	15	60	4:1, 4.5:1, 5:1, 5.5:1, 6:1	4D	3 3/8	2 3/8	3 3/8	3 3/8	3 1/2	3 1/2
T-19D05	6.00	15	Primary for 500 ohm line	1:3.15, 1:2.75, 1:2.5, 1:2.25, 1:2, 1:1.75, 1:1.4, 1:1.25, 1:1.85, 1:1.75	4D	3 3/8	2 3/8	3 3/8	3 3/8	3 1/2	3 1/2



3H

C.H.T. Multi-Match Driver Transformers
Feature Convenient Switchboard Plug-In Terminal Board and Compound Filled Cases

Type No.	List Price	Cap. Watts	Max. Pri. M.A. Per Side	Ratio Pri. to 1/2 Sec.	Mtg. Fig.	Mtg. Centers		Dimensions			Wt. Lbs.
						Width	Depth	W.	D.	H.	
T-15D78*	8.25	15	60	3:1, 3.2:1, 3.4:1, 3.6:1, 3.8:1	3H	3 3/8	2 3/8	4	4 1/2	4 3/8	6
T-15D79*	8.25	15	60	4:1, 4.5:1, 5:1, 5.5:1, 6:1	3H	3 3/8	2 3/8	4	4 1/2	4 3/8	6
T-15D82	8.25	15	Primary for 500 ohm line	1:3.15, 1:2.75, 1:2.5, 1:2.25, 1:2, 1:1.75, 1:1.4, 1:1.25, 1:1.85, 1:1.75	3H	3 3/8	2 3/8	4	4 1/2	4 3/8	5 3/4
T-15D83	11.50	30	Primary for 500 ohm line	1:3.15, 1:2.75, 1:2.5, 1:2.25, 1:2, 1:1.75, 1:1.4, 1:1.25, 1:1.85, 1:1.75	3H	3 3/8	2 3/8	4	4 1/2	4 3/8	8 1/2

*P.P. 45 or 2A3, 6B4G.



2B

FILAMENT (F) TRANSFORMERS

The essentials of improved voltage regulation and minimum heat rise have been given prime consideration in the design of these units. Ratings given are for continuous operation at full load.

Type No.	List Price	Primary Volts	Secondary Volts	Sec. Amps.	Pri. V.A.	R.M.S. Test Volts	Mtg. Fig.	Mtg. Centers		Dimensions			Wt. Lbs.
								Width	Depth	W.	D.	H.	
SINGLE SECONDARY													
T-50F61	\$1.50	115	2.5 Ct.	3.5	10	1600	2B	2 3/8	2 3/8	1 3/4	2 3/8	1	
T-19F88	1.75	115	2.5 Ct.	5.25	15	1600	2B	2 3/8	2 3/8	2	2 3/8	1 1/4	
T-19F89	2.25	115	2.5 Ct.	10	25	1600	2B	2 3/8	2 3/8	2 1/4	3	2	
T-19F90	3.00	115	2.5 Ct.	10	25	7500	3C	2	1 3/4	2 3/8	2 1/4	3 1/4	2 1/2
T-64F33	4.50	105/110/115	2.5 Ct.	10	25	7500	2N	3 1/4	2 1/2	3 3/4	3 1/4	4	4 1/2
T-19F82	5.00	115	2.5 Ct.	15	45	10000	3C	3 1/4	1 3/4	3 3/4	2 1/4	4	4
T-63F99	3.25	115	5 Ct.	4	20	1600	2D	2 1/4	1 3/8	2 3/8	3	3 1/2	2 1/2
T-19F83	2.25	115	5 Ct.	5	30	1600	2B	2 3/8	2 3/8	3 3/4	2 1/4	3	2
T-19F84	2.75	115	5 Ct.	8	45	1600	3C	2	1 3/4	2 3/8	2 1/4	3 1/4	2 3/4
T-19F85	3.25	115	5 Ct.	13	75	1600	3C	3 1/4	1 3/4	3 3/4	2 1/4	4	4
T-19F86	5.50	115	5 Ct.	21	120	1600	3C	3 1/4	2 1/4	3 3/4	2 3/4	4	4 1/2
T-74F23	5.00	105/110/115	5 Ct.	13	75	1600	2D	3 1/4	1 7/8	3 3/4	3 1/2	4	4 1/4
T-74F24	7.50	105/110/115	5 Ct.	21	125	1600	2D	2 3/4	1 3/8	3 3/4	3 3/8	4 3/8	5 1/4
T-19F91	2.25	115	5.25 Ct.	4	25	1600	3C	2	1 3/4	2 3/8	2 1/4	3 1/4	2 1/2
T-19F92	3.25	115	5.25 Ct.	13	75	1600	3C	3 1/4	1 3/4	3 3/4	2 1/4	4	4
T-19F80	1.25	115	6.3 Ct.	1	7	1600	2B	2	1 3/8	1 3/8	2	3/4	
T-19F81	1.50	115	6.3 Ct.	2	14	1600	2B	2 3/8	1 3/4	2 3/8	2 3/8	3 1/2	
T-19F97	1.75	115	6.3 Ct.	3	21	1600	2B	2 3/8	2 3/8	2	2 3/8	1 1/2	
T-61F65	2.00	115	6.3, 5, 2.5	2.5	18	1600	3E	3 1/4	1 3/8	3 3/8	2	2 1/4	1 1/2
T-73F60	3.75	105/110/115	6.3 Ct.	5	36	1600	2D	2 1/4	1 1/4	2 3/8	2 3/8	3 3/4	3 1/2
T-19F98	2.75	115	6.3 Ct.	6	47	1600	3C	2	1 3/8	2 3/8	2 3/8	3 1/4	2 3/4
T-19F99	3.50	115	6.3 Ct.	10	73	1600	3C	3 1/4	1 3/4	3 3/4	2 1/4	4	4
T-19F93	2.25	115	7.5 Ct.	4	34	1600	3C	2	1 3/4	2 3/8	2 1/4	3 1/4	2 1/2
T-19F94	3.00	115	7.5 Ct.	8	67	1600	3C	2 1/4	2 1/4	3	2 3/8	3 3/4	4
T-92F20	4.75	115	7.5 Ct.	8	68	1600	2D	3 1/4	2	3 3/4	3 1/4	4	4 3/4
T-19F95	2.75	115	10 Ct.	4	48	1600	3C	2	1 3/4	2 3/8	2 1/4	3 1/4	2 3/4
T-19F96	3.50	115	10 Ct.	8	92	1600	3C	2 1/4	2 1/4	3	2 3/8	3 3/4	4
T-64F14	4.75	105/110/115	10 Ct.	8	90	1600	2D	3 1/4	2 3/8	3 3/4	3 3/8	4	5
T-19F87	6.25	115	10 Ct.	12	140	1600	3C	3 1/4	2 1/2	3 3/4	3	4	6 3/4



3C



2D



3E

MULTIPLE SECONDARIES

T-19F76	\$4.75	115	Sec. 1-5 V. Sec. 2-7.5/6.3/5	3 6	67	1600 1600	2G	2 3/8	2 3/8	3 3/8	3 1/2	4 3/8	4 3/4
T-19F77	7.50	115	Sec. 1-5 V. Sec. 2-2.5 V. Ct. Sec. 3-10/7.5/6.3/5	3 10 8	133	1600 7500 1600	2G	3	2 3/8	3 3/4	3 3/8	4 3/8	7
T-19F78	5.25	115	Sec. 1-2.5 V. Ct. Sec. 2-5 V.	10 3	45	7500 1600	2G	2 3/8	2 3/8	3 3/8	3 3/8	4 3/8	5
T-19F79	6.75	115	Sec. 1-6.3 V. Ct. Sec. 2-10/7.5/6.3/5	3 10	133	1600 1600	2G	2 3/8	3	3 3/8	3 3/8	4 3/8	6
T-79F84	4.75	115	Sec. 1-2.5 V. Ct. Sec. 2-5 V. Ct. Sec. 3-6.3 V. Ct.	3.5 3 3	48	1600 1600 1600	2G	2 3/8	2 1/2	3 3/8	3 1/2	4 3/8	4 3/4



2G

We can supply all Thordarson products. Ask for complete Thordarson catalog.



Modulation (M) — Plate (P) Transformers



MODULATION TRANSFORMERS FOR SPECIFIC APPLICATIONS

To couple the plate or plates of an audio output stage to a Class C R.F. load.

Type No.	List Price	Tube Type	Class	Ohms Impedance		Max. D.C. Sec. M.A.	Max. Audio Pwr. Watts	Mtg. Fig.	Mtg. Centers		Dimensions			Wt. Lbs.
				Pri.	Sec.				Width	Depth	W.	D.	H.	
T-17M59	\$2.75	1-6A6, 6N7 or 53	B	10,000	3,000 3,750 / 4,500	100	10	2F	2 3/8	3 3/8	2 1/2	3	2	
T-64M26	6.00	2-46 or 69 2-250	AB B	5,800	5,000 10,000	100	40	2D	3 1/4	2 3/8	3 3/4	3 3/8	4	5
T-84M70	10.00	2-6L6 2-35T 4-210	AB B B	3,800	2,500 5,000 7,500	250	75	2D	2 3/4	2 3/8	3 3/4	4 1/8	4 3/8	10
T-14M49	16.50	2-TZ-40	B	6,900	2,850 4,500 6,500	350	175	2Q	6 3/4	3 3/8	7 1/2	5 3/8	6 3/8	20

"19" SERIES UNIVERSAL MODULATION TRANSFORMERS

Type No.	List Price	Capacity Watts	Pri. M.A. Each Side	Secondary M.A.		Mtg. Fig.	Mtg. Centers		Dimensions			Wt. Lbs.
				Series	Parallel		Width	Depth	W.	D.	H.	
T-19M13	\$4.00	15	50	50	100	4D	2 3/8	3 3/8	2 3/8	3	2	
T-19M14	7.00	30	75	75	150	2N	3 1/4	1 3/8	3 3/4	3	4	4 1/2
T-19M15	10.00	60	125	125	250	2N	3 1/4	2 3/8	3 3/4	3 3/4	4	6 1/2
T-19M16	15.00	100	175	175	350	2N	3 1/4	2 3/4	4 1/4	4 1/4	6 1/8	12 1/2
T-19M17	24.00	250	225	225	450	2Q	7 3/4	3 3/8	8 1/2	5 3/4	6 3/8	30 3/4

C. H. T. MULTI-MATCH MODULATION TRANSFORMERS

A premium feature of this group is the exclusive Thordarson Switchboard Plug-in terminal board, enabling quick and accurate matching of tube loads without soldering.

Type No.	List Price	Capacity Watts	Pri. M.A. Each Side	Secondary M.A. Series	Secondary M.A. Parallel	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-11M74	\$9.00	40	100	80	160	3G	2 3/8	3 3/8	4 1/8	4 1/2	4 3/8	7 3/4
T-11M75	12.50	75	145	145	290	3G	2 3/8	3 3/8	4 1/8	4 1/2	4 3/8	9
T-11M76	19.50	125	210	160	320	3G	3 3/8	4 3/8	5 3/8	5 3/8	6	18
T-11M77	30.00	300	250	250	500	3G	4 3/8	5 3/8	5 3/8	6 3/8	7 1/2	30
T-11M78	60.00	500	320	320	640	3G	5 3/8	7 3/8	7 3/8	8 3/8	7 1/2	15

PLATE SUPPLY (P) TRANSFORMERS

While ordinarily used to supply the voltage potential between cathode and anodes of vacuum tubes in a rectifier circuit, there are additional applications requiring relatively high voltages in which Thordarson plate transformers may be used to good advantage. Thordarson plate transformers are rated in D.C. voltages from a two section filter which includes the voltage drop through the rectifier tubes. Designed especially for Amateur Short Wave or experimental equipment. Electrostatic shielding is provided between primary and secondary windings.

Type No.	List Price	Primary Volts	Sec. A.C. Load Volts	D.C. Volts	Bias Tap	D.C. M.A.	Pri. V.A.	Mtg. Fig.	Mtg. Centers		Dimensions			Wt. Lbs.
									Width	Depth	W.	D.	H.	
T-19P54	\$5.50	115	560-0-560	400		150	115	2G	3 3/8	2 3/8	3 3/4	3 3/8	4 3/8	7
T-19P55	6.50	115	660-0-660 550-0-550	500 400	30 V.	250	200	2G	3 1/8	3	3 3/4	3 3/4	4 3/8	8
T-84P60	6.50	115	515-0-515	400	30 V.	250	190	2G	3	4	3 3/8	4 3/4	4 3/8	11 3/4
T-19P70	9.00	115	900-0-900 605-0-605	750* 400		100 225	260	2G	3	3 3/8	3 3/8	4 3/8	4 3/8	11 3/2
T-19P56	7.00	115	900-0-900 800-0-800	750 600		225	260	2G	3 3/8	3 1/2	3 3/4	4 1/4	4 3/8	10
T-19P57	8.50	115	1075-0-1075 500-0-500	1000* 400		125 150	245	2G	3 3/8	3 3/4	3 3/4	4 1/2	4 3/8	10 1/2
T-19P58	14.25	115	1200-0-1200 900-0-900	1000* 750		200 150	500	2G	3 3/4	3 3/8	4 3/8	4 3/8	6 1/8	19
T-19P69	13.00	115	1180-0-1180 900-0-900	1000 750		300	430	2G	3 3/4	3 3/8	5 1/8	6 1/4	6 3/4	20
T-19P71	13.00	115	1325-0-1325 595-0-595	1250* 400		125 200	320	2G	3	4 3/4	3 3/8	5 1/2	4 3/8	15 1/2
T-19P59	16.00	115	1560-0-1560 1250-0-1250	1250 1000		300	550	2K	4 3/8	3 3/8	5 3/4	7	6 1/8	26 1/2
T-19P60	18.50	115	1875-0-1875 1560-0-1560	1500 1250		300	620	2K	5 3/4	4 3/8	6 3/8	6 1/4	6 3/8	29 1/4
T-19P61	20.00	115	2125-0-2125 1875-0-1875	1750 1500		300	745	2K	5 3/4	4 3/8	6 3/8	6 1/2	6 3/8	31 1/2
T-19P62	22.50	115	2420-0-2420 2125-0-2125	2000 1750		300	860	2K	5 3/4	5	6 3/8	6 3/8	6 3/8	34 1/2
T-19P65	29.50	115	3000-0-3000 2420-0-2420	2500 2000		300	1195	2K	5 3/4	6	6 3/8	7 3/8	6 3/8	44
T-19P63	23.00	115	1560-0-1560 1265-0-1265	1250 1000		500	925	2K	5 3/4	5 1/4	6 3/8	7 3/8	6 3/8	38
T-19P64	28.50	115	1875-0-1875 1560-0-1560	1500 1250		500	1130	2K	5 3/4	6	6 3/8	7 3/8	6 3/8	43 1/4
T-19P66	35.00	115	2125-0-2125 1875-0-1875	1750 1500		500	1185	2K	5 3/4	4 3/8	6 3/8	5 3/4	9 3/8	45 1/2
T-19P67	42.50	115	2450-0-2450 2125-0-2125	2000 1750		500	1380	2K	5 3/4	4 3/8	6 3/8	5 1/2	9 3/8	51
T-19P68	50.00	115	3000-0-3000 2450-0-2450	2500 2000		500	1760	2K	5 3/4	5 3/8	6 3/8	6 1/2	9 3/8	61

*These transformers designed for double rectifiers and will deliver both secondary ratings simultaneously. If only the lower voltage taps are used the current rating is equal to the current rating of both windings.

We can supply all Thordarson products. Ask for complete Thordarson catalog.



2D



2F



2Q



2N



3G



3U



2G



2K



UNIVERSAL REPLACEMENT POWER TRANSFORMERS — "13R" SERIES

The choice of servicemen in all parts of the world because of the universal adaptability to receiver replacement, from both electrical and mechanical considerations. Adjustable mounting brackets permit flush, vertical or horizontal mounting. Replacement recommendations are given in Thordarson Replacement Transformer Encyclopedia and Service Guide No. 352.



Type No.	List Price	Pri. V.A.	Secondary		Filament Windings			Mtg. Centers		Dimensions			Wt. Lbs.		
			A.C. Load Volts	D.C. M.A.	Rect. Fil.	Fil. No. 1	Fil. No. 2	Fil. No. 3	Mtg. Fig.	Width	Depth	W.		D.	H.
T-13R19	\$2.50	45	240-0-240	40	5V-2A	6.3V-2A Ct.			3A	2 1/2	2 1/2	2 1/2	2 1/2	3	2 1/2
T-13R11	2.75	60	290-0-290	50	5V-3A	6.3V-2A Ct.			3A	2 1/2	2 1/2	2 1/2	2 1/2	3	3 1/4
T-13R12	3.50	65	350-0-350	70	5V-3A	6.3V-2.5A Ct.			3A	2 1/2	2 1/2	2 1/2	3 3/8	3	3 1/4
T-13R13	4.00	90	350-0-350	90	5V-3A	6.3V-3.5A Ct.			3A	2 1/2	3 1/8	3 1/8	3 3/8	3 3/4	5 1/4
T-13R14	4.25	115	350-0-350	120	5V-4A	6.3V-4.7A Ct.			3A	2 1/2	3 1/8	3 1/8	3 1/2	3 3/4	5 1/4
T-13R15	5.75	140	375-0-375	150	5V-4A	6.3V-5A Ct.			3A	3	3 3/4	3 3/4	3 3/8	4 1/2	6 1/2
T-13R16	6.25	180	400-0-400	200	5V-4A	6.3V-5.14A Ct.			3A	3	3 3/4	3 3/4	3 3/8	4 1/2	7 1/4
T-13R17	4.00	85	300-0-300	60	5V-3A	6.3V-2.5A Ct.	2.5V-7.5A Ct.		3A	2 1/4	2 1/2	2 1/2	3 3/8	3 3/8	4 1/2
T-13R18	4.50	115	350-0-350	90	5V-3A	6.3/2.5-3.5A Ct.	2.5V-9A Ct.		3A	3	3 3/4	3 3/4	3 3/4	4 1/2	5 1/4
T-13R08	4.50	105	350-0-350	90	5V-3A	6.3V-3.3A Ct.	2.5V-6A Ct.		3A	2 1/2	3 1/8	3 1/8	3 1/2	3 3/4	5 1/4
T-13R09	6.25	160	375-0-375	180	5V-3A	6.3V-3.3A Ct.	2.5V-6A Ct.		3A	3	3 3/4	3 3/4	3 3/8	4 1/2	7 1/2
T-13R00	4.25	70	275-0-275	70	5V-3A	5V-.5A Ct.	2.5V-10.5A Ct.		3A	2 1/4	2 1/2	2 1/2	3 3/8	3 3/8	4
T-13R01	2.75	60	325-0-325	40	5V-3A	2.5V-4A Ct.			3A	2 1/2	2 1/2	2 1/2	2 1/2	3	3 1/4
T-13R02	3.50	60	350-0-350	50	5V-3A	2.5V-7.25A Ct.			3A	2 1/2	2 1/2	2 1/2	2 1/2	3	3 1/4
T-13R03	3.75	75	350-0-350	70	5V-3A	2.5V-9A Ct.			3A	2 1/4	2 1/2	2 1/2	3 3/8	3 3/8	4
T-13R04	4.25	115	350-0-350	100	5V-3A	2.5V-12.5A Ct.			3A	2 1/2	3 1/8	3 1/8	3 3/4	3 3/4	5 1/4
T-13R05	4.00	110	350-0-350	70	5V-3A	2.5V-9A Ct.	2.5V-3.5A Ct.		3A	2 1/2	3 1/8	3 1/8	3 1/2	3 3/4	5 1/4
T-13R06	5.25	130	350-0-350	120	5V-3A	2.5V-12.5A Ct.	2.5V-3.5A Ct.		3A	3	3 3/4	3 3/4	3 3/8	4 1/2	6 1/2
T-13R07	5.50	140	400-0-400	110	5V-3A	2.5V-15A Ct.	2.5V-3.5A Ct.		3A	3	3 3/4	3 3/4	3 3/4	4 1/2	6 3/4

Amplifier, Transmitter and Replacement Power Transformers



Type No.	List Price	Pri. V.A.	Secondary		Filament Windings			Mtg. Centers		Dimensions			Wt. Lbs.		
			A.C. Load Volts	D.C. Bias Tap	Rect. Fil.	Fil. No. 1	Fil. No. 2	Fil. No. 3	Mtg. Fig.	Width	Depth	W.		D.	H.
FULLY SHIELDED — UPRIGHT MOUNTING															
Leads are brought out through opening in base. Knock-out holes on sides of shields provide optional above-panel connection.															
T-56R01	\$5.50	60	325-0-325	70	5V-2A	2.5V-3A Ct.	1.5V-1A 1.5V-4A	5V-5A Ct.	2G	2 1/2	3	3 3/8	3 3/8	4 1/2	5 1/4
T-56R03	6.00	85	350-0-350	105	5V-3A	2.5V-3A Ct.	2.5V-1.75A Ct.	1.5V-5A 1.5V-1A	2G	3	2 1/2	3 3/4	3 3/8	4 1/2	7 1/4
T-56R05	6.00	115	350-0-350	110	5V-3A	2.5V-9A Ct.	2.5V-3A Ct.	2.5V-3A Ct.	2G	3	2 1/2	3 3/4	3 3/8	4 1/2	7 1/4
T-70R18	3.25	60	340-0-340	55	5V-2A	6.3V-1.5A Ct.			2G	2 1/2	1 3/4	3 3/8	2 3/8	4 1/2	4
T-70R61	4.00	60	385-0-385	70	5V-2A	6.3V-2.5A Ct.			2G	2 1/2	2 1/2	3 3/8	3 1/8	4 1/2	4 1/4
T-70R62	5.50	110	350-0-350	145	5V-3A	6.3V-4.5A Ct.			2G	3	3 1/8	3 3/4	3 3/8	4 1/2	8 1/2
T-92R21	7.50	150	400-0-400	200	5V-3A	6.3V-5A Ct.			2G	3	3 1/2	3 3/4	4 1/4	4 1/2	9
T-17R30	8.50	200	370-0-370	280	5V-3A	6.3V-7A Ct.			2G	3	3 3/8	3 3/4	4 1/2	4 1/2	9 1/2
T-17R31	12.50	300	430-0-430	325	5V-6A	6.3V-8A Ct.			2G	3	4 1/8	3 3/4	5 1/8	4 1/2	13 1/2
T-74R28	6.50	105	440-0-440	125	38V 5V-3A 2.5V-3A	6.3V-3.3A Ct.			2G	3	2 1/2	3 3/4	3 3/8	4 1/2	8
T-67R85	7.00	145	330-0-330	160	77V 5V-3A 5V-2A	6.3V-2A Ct.	2.5V-5A Ct.		2G	3	3 1/8	3 3/8	3 3/8	4 1/2	8 1/2
T-68R26	6.75	160	550-0-550	150	5V-3A	7.5V-2.5A Ct.	2.5V-5A Ct.		2G	3	3 1/2	3 3/4	4 1/4	4 1/2	10 1/2
T-69R35	6.50	135	385-0-385	200	5V-3A	6.3V-3A Ct.			2G	3	3 1/2	3 3/4	4 1/4	4 1/2	9 1/2
T-75R50	7.50	160	435-0-435	250	80V 5V-3A 2.5V-3A	6.3V-1.5A Ct.	2.5V-10A Ct.		2G	3	3 1/2	3 3/4	4 1/4	4 1/2	10 1/2
T-83R85	12.00	290	740-0-740	200	150V 5V-3A 2.5V-3A	7.5V-5A Ct.			2G	3 1/2	4 1/2	3 3/4	5 1/4	4 1/2	13 1/2
T-89R28	11.00	250	550-0-550	275	5V-3A Ct	6.3V-6A Ct.			2G	3	4 1/2	3 3/8	5 1/4	4 1/2	15
T-19R30	7.75	170	560-0-560	150	5V-3A	6.3V-3A Ct.	7.5V-2.5A Ct.		2G	3	3 1/4	3 3/4	4	4 1/2	8 1/4

C. H. T. POWER TRANSFORMERS

For amplifiers, transmitters, or deluxe receivers. Designed to operate continuously at full rated load. Cases compound filled for complete coil protection.

T-15R04	4.75	30	255-0-255	25		6.3V-2.1A Ct.			3L	2 1/2		2 1/2	3	3 3/8	3	
T-15R05	10.50	150	340-0-340	135	77V	5V-3A 5V-2A	6.3V-4A Ct.	*6.3V-2A Ct. *2.5V-5A Ct.		3L	2 1/2	3 1/2	4 1/2	4 1/2	5 1/2	10
T-15R06	9.75	155	360-0-360	175		5V-3A	6.3V-5A Ct.			3L	2 1/2	3 1/2	4 1/2	4 1/2	5 1/2	11
T-15R07	10.50	238	380-0-380	280		5V-3A	6.3V-7A Ct.			3L	2 1/2	3 1/2	4 1/2	4 1/2	5 1/2	12
T-15R08	13.75	253	450-0-450	325		5V-6A	6.3V-8A Ct.			3L	3 1/2	4 1/2	5 1/2	5 1/2	6 1/2	22

SPEAKER FIELD SUPPLY TRANSFORMERS

T-67R97	4.25	55	115 V.D.C. @ 50 to 250	5V-3A					2G	3 1/4	1 1/2	3 1/2	3 1/2	3 3/4	4 1/4
T-92R53	5.75	120	300 V.D.C. @ 200	5V-3A					2G	3 1/4	2 1/2	3 1/2	4	3 3/4	6 1/4

*Not simultaneous — for 2A3's or 6A3's Fil.

UNIVERSAL 115 VOLT A.C. OR 6 VOLT D.C. VIBRATOR POWER TRANSFORMER

T-14R40	\$6.75		350		135	2G	3	3 1/4	3 1/4	4	4 1/2	8 1/2
			Fil.-6.3 Ct.		4.75 Amp.							

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Output (S) Transformers



OUTPUT (S) TRANSFORMERS

For coupling audio power amplifier tubes to a loud speaker voice coil or line. Correctly matching the output tubes to a speaker load is important. Efficiency, frequency response and distortion are affected by this matching. Small, unshielded types are listed for use with receivers where the transformer is usually mounted on the loud speaker frame. Larger shielded types have multiple secondary impedances as required in sound amplifiers. C.H.T. output transformers have a greater selection of output impedances, meeting practically all speaker requirements. These units are compound filled and are provided with jacks and plugs to facilitate speaker matching. Tertiary winding included on some types for inverse feed-back connections.



3B



3E



2B



2F



2G



2E



2D

Type No.	List Price	Tube Type	Class	Ohms Impedance		Pri. M.A.		Mtg. Centers		Dimensions			Wt. Lbs.
				Pri.	Sec.	Per Side	Max. Watts	Fig.	Width	Depth	W.	D.		H.

REPLACEMENT OUTPUT TRANSFORMERS

T-14S81	\$1.25	1-42, 2A5, 6F6 or P-P45, 71	A	7,000 Ct.	3 to 6	40	5	3B	2	2 3/8	1 3/8	1 3/8	1/2
T-14S82	1.25	1-25L6	A	1,500	3 to 6	55	5	3B	2	2 3/8	1 3/8	1 3/8	1/2
T-14S83	1.25	1A5-G, 1E7-G	A	25,000 Ct.	3 to 6	8	5	3B	2	2 3/8	1 3/8	1 3/8	1/2
T-14S84	1.25	1-1C5G, 1Q5G	A	8,000	3 to 6	10	5	3B	2	2 3/8	1 3/8	1 3/8	1/2
T-13S37	1.25	1-6F6, 42, 2A5, 47	A	7,000	1/2/4	36	5	3E	2	2 3/8	1 3/8	1 3/8	1/2
T-13S39	1.25	1-45, 12A5, 43, 71A	A	4,000	1/2/4	36	5	3E	2	2 3/8	1 3/8	1 3/8	1/2
T-13S43	1.35	1-1F4, 1D4, 1F5G	A	16,000	1/2/4	10	5	3E	2	2 3/8	1 1/4	1 3/8	1/2
T-33S99	1.50	2-45, 71, 43, 25A6 P-P	A	8,000 Ct.	6 to 12	36	10	2B	2 3/4	2 7/8	2	2 3/8	1 1/4
T-13S40	1.50	2-6F6, 42 P-P, 2-2A5, 47 P-P	A	14,000 Ct.	1/2/4	40	10	3E	2 3/8	2 3/8	1 3/8	1 3/8	3/4
T-81S01	1.50	1-19, 1J6G, 1G6G P-P 2-30, 49 P-P	B B	10,000 Ct.	2/4/8/	15	8	2B	2 1/8	2 3/8	1 3/8	2	3/4

HEAVY DUTY OUTPUT TRANSFORMERS TO LINE OR SPEAKER (High Level)

T-72S58	\$1.65	Pentode Plate to phones or oscillator		10,000	2,000 50	30	5	2B	2 1/8	2 3/8	1 3/8	2	3/4
T-17S10	3.00	1-6L6	A	2,500	2 4/8/500	80	8	2F	2 3/4	3 3/8	2 1/2	3	2 1/4
T-17S11	4.50	2-6V6 P-P	AB1	8,000*	4/8/15/250/500	52	15	2F	3 1/4	3 3/8	3 1/8	3 1/2	3 1/2
T-17S12	4.50	2-6L6 P-P	AB1	4,300*	4/8/15/250/500 (with 300 V. on plate and screen)	95	25	2F	3 1/4	3 3/8	3 3/8	3 1/2	3 1/2
T-17S13	6.00	2-6L6 P-P	AB1	6,600*	4/8/15/250/500	80	34	2G	2 3/4	3 3/8	3 3/8	4 3/8	5 1/2
T-17S14	6.00	2-6L6 P-P	AB2	5,500*	4/8/15/250/500	90	40	2G	2 3/4	3 3/8	3 3/8	4 3/8	5 1/4
T-17S15	6.50	4-6L6 P-P Par.	AB1	3,300*	4/8/15/250/500	155	60	2G	2 3/4	3 3/8	3 3/8	4 3/8	5 3/4
T-68S06	2.50	1-6F6, 42, 2A5, 1-47	A	7,000	10 or 2,000	36	5	2F	2 3/8	2 3/4	1 3/8	2 3/8	1
T-67S51	3.50	2-6F6, 42, 2A5, 47 P-P	A	14,000	4/8/15/500	40	20	2F	2 3/8	3 3/8	2 1/2	3	2 1/4
T-67S48	3.50	2-45, 71, 43, 25A6 P-P 1-6N7, 6A6, 53 P-P	A B	8,000	4/8/15/500	36	25	2F	2 3/8	3 3/8	2 1/2	3	2 1/4
T-67S52	4.00	2-46, 59 P-P 2-6F6, 42, 2A5 P-P 2-6N7, 6A6, 53 P-P Par.	B AB2 B	5,800	4/8/15/500	60	30	2F	3 1/4	3 3/8	3 1/8	3 1/2	3 1/2
T-58S72	3.75	2-2A3, 6B4G P-P 2-48, 25L6 P-P	AB A	3,000	4/8/15/500	60	30	2F	3 1/4	3 3/8	3 1/8	3 1/2	3 1/4
T-67S54	4.00	2-6L6 P-P 2-2A3, 6B4G, 45 P-P	A AB	5,000	4/8/15/500	60	30	2F	3 1/4	3 3/8	3 1/8	3 1/2	3 1/2
T-67S92	4.00	4-2A3, 6B4G, 45 P-P Par. 4-48, 25L6, P-P Par.	AB A	1,500	4/8/15/500	80	40	2F	3 1/4	3 3/8	3 1/8	3 1/2	3 1/2
T-65S94	4.00	2-50 P-P 2-6F6, 42, 2A5 P-P	A AB2	8,000	4/8/15/500	55	40	2F	3 1/4	3 3/8	3 1/8	3 1/2	3 1/2
T-75S75	4.00	2-6F6, 42 or 2A5 1-6N7, 6A6, 53 P-P 2-6N6G, 6B5, 2B6, 6AC5 P-P	AB2 B A	10,000	4/8/15/500	45	40	2F	3 1/4	3 3/8	3 1/8	3 1/2	3 1/2
T-84S58	6.00	2-6L6 P-P	AB2	3,800	4/8/15/500	115	60	2G	2 3/4	2 3/8	3 3/8	4 3/8	6
T-89S75	4.00	2-6L6 P-P	AB1	6,600	4/8/15/500	80	40	2F	3 1/4	3 3/8	3 1/8	3 1/2	3 1/2

*10% feed-back winding.

UNIVERSAL REPLACEMENT TUBE TO VOICE COIL

Preferred by many because of their wide plate impedance and voice coil coverage. Proper matching of load impedances to speaker voice coils is accomplished by using taps as specified in the instruction sheets.

T-13S38	\$1.50	Universal	A	4,000/7,000	Adjustable	36	8	3E	2 3/8	2 3/8	1 3/8	1 3/8	3/4
T-57S01*	2.00	Single or P-P Tubes	A	8,000/10,000	.1 to 29			2E	2 3/8	2 3/8	2	2 3/8	1 1/4
T-57S02†	2.00		A	14,000 Ct.				2B	2 3/8	2 3/8	2	2 3/8	1 1/4
T-13S42	1.50	Universal Single Tube	A	1,500/2,000 4,000/5,000 7,000	Adjustable .1 to 29	55	10	3E	2 3/8	2 3/8	1 3/8	1 3/8	3/4
T-13S41	2.75	Universal P-P Tubes	A	3,000/5,000 6,600/7,000 8,000/10,000	Adjustable .1 to 29	60	20	2E	2 3/8	3 3/8	2 1/2	3	2 1/4

*Solder terminals for voice coil connections. †Color coded leads for voice coil connections.

UNIVERSAL TUBE TO LINE

T-61S25	\$3.25	Univ. Single Tube	A	2,500/4,000 5,000/6,000/7,000	500	60	10	2E	2 3/8	3 3/8	2 1/2	3	2 1/4
T-61S26	3.50	Univ. P-P Tubes	A	8,000/10,000 12,000/14,000 Ct.	500	55	10	2E	2 3/8	3 3/8	2 1/2	3	2 1/4

UNIVERSAL LINE TO VOICE COIL

T-53S81	\$4.00	Line to Voice Coil		500/250	4-8-15	35	2D	2 1/8	1 1/4	2 7/8	2 3/8	3 3/8	3 1/2
T-60S48	3.00	Line to Voice Coil		500/1,000	Pri. as 500	10	2E	2 3/8		3 3/8	2 1/2	3	2
T-17S18	3.50	1 to 6 may be con. in par. to 500 ohm line		1,500/2,000 2,500/3,000	ohm-.06 to 8.; Pri. as 1,000 ohm					3	2 3/4	2 3/4	2 1/4
T-14S80	2.00	Line to Voice Coil		500	2/4/6/8	12	2E	2 3/8		2 7/8	2	2 3/8	1 1/2

We can supply all Thordarson products. Ask for complete Thordarson catalog.



C. H. T. CRYSTAL RECORDER TRANSFORMERS

The wave of interest in recording radio programs, speech and other audio happenings has created the desire to build recording equipment. These two transformers are offered to meet the requirements for coupling to a crystal recording head. Designed for constant velocity recording.

T-15S98	\$9.00	Line to crystal cutting head	500	30,000	10	3U	2 3/8	2 3/4	2 1/8	3 1/4	4 1/4	5
T-15S99	9.00	Push-pull 2A3 to crystal head	3,000/5,000	30,000	10	3U	2 3/8	2 3/4	2 1/8	3 1/4	4 1/4	5



3U

C. H. T. MULTIPLE TAP OUTPUT TRANSFORMERS

Include these C. H. T. premium quality features: Switchboard plug-in terminal board for quick and accurate selection of secondary impedances, conservative design for exceptional performance, and complete coil protection against humidity. Tertiary winding to give a feedback voltage 10% of full primary. Split Primaries.

T-15S90	\$9.25	2-6V6 P-P 2-6L6 P-P 2-2A3 P-P (self bias)	AB1 AB1 AB	8,000 5,000 5,000	2/3/4/6/- 8/16/125/- 250/500	70	15	3H	2 3/8	3 1/2	4 1/8	4 1/2	4 3/8	7 1/4
T-15S91	11.50	2-6L6 P-P (300 V. P. & Sc.) 2-2A3 P-P (fixed bias)	AB AB	4,300 3,000	Same as above	95	25	3H	2 3/8	3 1/2	4 1/8	4 1/2	4 3/8	8



3H

**VOLTAGE CHANGER (V) TRANSFORMERS
FILAMENT CORRECTOR AUTOTRANSFORMERS**

To compensate for variations in line voltage or for drop in filament leads. Correct filament voltage at the tube is made possible.

Type No.	List Price	Capacity Filament Power Watts	Primary Taps	Mtg. Fig.	Mtg. Centers		Dimensions			Wt. Lbs.
					Width	Depth	W.	D.	H.	
T-18V24	\$2.00	60	105/110/115/120/125V.	2E	2 3/8	2 3/8	2 1/8	2	2 3/8	1
T-18V25	2.75	150	105/110/115/120/125V.	2E	2 3/8	2 3/8	3 3/8	2 3/8	2 3/8	1 3/4



2E

AUTOTRANSFORMERS

Autotransformers consist of a single winding on an iron core. Voltage variation is accomplished by means of taps.

Step Down — Convenience Outlet Type

Input side equipped with cord and plug. Output side has standard receptacle.

Type No.	List Price	Input Volts	Output Volts	Output Load		Mtg. Fig.	Mtg. Centers		Dimensions			Wt. Lbs.
				V.A.	Amps.		Width	Depth	W.	D.	H.	
T-26V04	\$4.50	220-250	110-125	80	0.725	2V	2 1/4	2 1/4	3 3/8	2 1/8	4 3/8	4 1/2
T-18V06	6.00	220-250	110-125	150	1.35	2V	2 1/4	3	3 3/8	3 1/8	4 3/8	6 1/4
T-50V11	7.50	220-250	110-125	250	2.25	2V	3	3 1/2	3 3/8	4 1/4	4 3/8	10 1/4
T-18V07	13.50	220-250	110-125	500	4.5	2V	3	4 1/8	3 3/8	2 1/8	4 3/8	13



2V

Line Voltage Adjusting — Convenience Outlet Type

For boosting or lowering line voltage. Input taps may be selected by means of a convenient plug arrangement as illustrated (Fig. 4E)

T-18V20	\$5.00	95/105/125	115	100	0.9	2V	2 1/4	2 1/4	3 3/8	2 1/8	4 3/8	4 1/2
T-18V21	6.00	95/105/125	115	150	1.3	2V	2 1/4	2 3/8	3 3/8	3 1/8	4 3/8	5
T-18V22	7.50	95/105/125	115	250	2.2	2V	3	2 3/8	3 3/8	3 3/8	4 3/8	6 1/2
T-18V23	12.00	95/105/125	115	500	4.5	2V	3	3 1/8	3 3/8	3 3/8	4 3/8	9



4E

LINE REGULATING AUTOTRANSFORMER

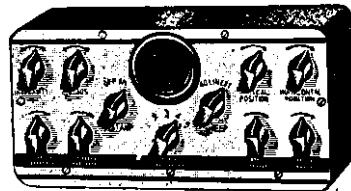
Provides for an increase or decrease of 7.5 volts. May be used on any A.C. line of 50-60 cycle frequency from 90V to 125V as a step-up or step-down transformer. Especially suitable for boosting line voltage for fluorescent lighting units. Fully enclosed (similar to 2H) and mounted on a 4" outlet box cover, allowing for complete enclosure of all wiring in a conduit or BX system.

T-18V26	\$5.25	90-125	7.5 Variation	1150	10	4	4 1/8	3 1/8	4 1/8	5 1/2
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THORDARSON OSCILLOSCOPE KIT

An accurately designed circuit using a 913 tube. Magnifying lens gives clear 2" image and small overall size of unit makes it ideal for relay rack of servicemen and for amateur and experimental uses.

Type No.	List Price	Description
T-11K99	\$12.50	Foundation Unit (Consists of punched chassis, panel, light shield, etched panel, ventilated cabinet and 2" magnifying lens with retainer ring, and complete circuit with constructional and operating data.) In addition to the foundation unit, one T-92R33 power transformer (see below) and one T-74C30 filter choke are required.



Circuit diagram, description and complete parts list given in catalog sheet SD266



No. 340 Manual

POWER TRANSFORMERS FOR CATHODE RAY TUBES

Type No.	List Price	Volts D.C.	M.A.	Rect. Fil.	Fil. No. 1	Fil. No. 2	Mtg. Centers		Dimensions			Wt. Lbs.	
							Mtg. Fig.	Width	Depth	W.	D.		H.
T-92R25- For 913 tube	\$2.25	600 tap-430	3	6.3V-.9A*			2F	2 3/8		2 3/4	2 1/8	2 3/8	1 1/4
T-92R33 For 913 tube	4.00	**500 tap-400	3 15	6.3V-.9A	6.3V-.6A	6.3V-.6A (No. 3 2.5V-1.4A)	2F	3 1/2		3 1/2	3 1/8	3 1/2	3 1/4

**With half wave rectification. *For I-V rectifier and 913 filament.
 #340 Complete Transformer Manual — 35c postpaid — contains Sound Amplifier Guide, Transmitter Guide, Replacement Encyclopedia and Service Guide with catalogs. A popular book in every technical library.
 #333 Amateur Radio — a beginner's guide — 75c postpaid — one of the most comprehensive and clearly written books available for learning Amateur Radio. Cloth bound book, 160 pages, over 100 illustrations. A handy reference book for the experienced amateur.



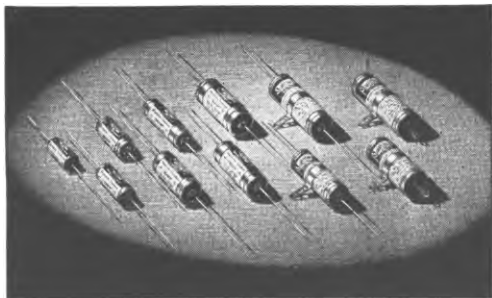
No. 333 Amateur Radio

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DRY ELECTROLYTIC CAPACITORS

ALUMINUM CASED TUBULARS



TYPE BR—"BLUE BEAVERS"

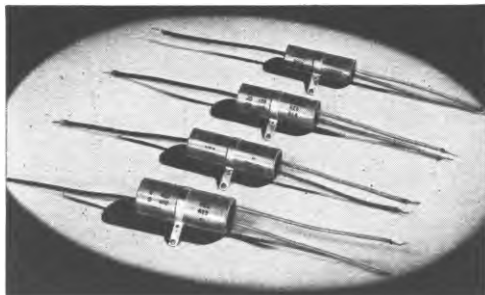
Extremely small, handy to use, and completely eliminating exact duplicate replacement capacitors. Polarity is clearly indicated on a protective varnished cardboard sleeve fitted over a pure aluminum cartridge. Hermetically sealed, vented, and very practical to employ in radio receiver circuits. Eliminate drilling of chassis, use of pal nuts, washers, and minimize assembly operations as well as save space and afford quick wiring.

FEATURES OF TYPE BR

- 1—Exclusive Electro-Chemical Etching—Eliminates corrosion.
- 2—Hi-Formation Process—Affords higher voltage breakdown.
- 3—Hi-Pressure Centrifuge—Better impregnation; lower power factor.
- 4—Hi-Purity Aluminum Foil—Better direct current leakage recovery.
- 5—Special C-D Super-Purity Cellulose Separator—Extra long life.
- 6—Rigid Chemical Purity Control—Uniform performance.
- 7—Double Ageing—Stable characteristics.
- 8—All Aluminum Tubes and Accessories—Prevents galvanic corrosion.
- 9—Special Vent—Safety under all operating conditions.
- 10—Tubular Compact Construction—Allows ease of wiring into circuit.

Cat. No.	Capacity Mfd.	Size Diameter x Length	List Price	Net Price
25 VOLTS D.C.				
BR-102-A	10	5/8" x 1 1/8"	\$0.40	\$0.24
BR-202-A	20	5/8" x 1 1/8"	.45	.27
BR-252-A	25	5/8" x 1 1/8"	.50	.30
BR-502	50	5/8" x 1 1/8"	.60	.36
50 VOLTS D.C.				
BR-550	5	5/8" x 1 1/8"	.40	.24
BR-105	10	5/8" x 1 1/8"	.45	.27
BR-205	20	5/8" x 1 1/8"	.50	.30
BR-255	25	5/8" x 1 1/8"	.55	.33
BR-505	50	5/8" x 1 1/8"	.70	.42
150 VOLTS D.C.				
BR-415	4	5/8" x 1 1/8"	.40	.24
BR-815	8	5/8" x 1 1/8"	.45	.27
BR-1215	12	5/8" x 1 1/8"	.50	.30
BR-1615	16	5/8" x 1 1/8"	.55	.33
BR-2015	20	5/8" x 1 1/8"	.60	.36
BR-4015	40	5/8" x 2"	.70	.42
250 VOLTS D.C.				
BR-425	4	5/8" x 1 1/8"	.45	.27
BR-825	8	5/8" x 1 1/8"	.50	.30
BR-1225	12	5/8" x 2"	.65	.39
BR-1625	16	5/8" x 1 1/8"	.75	.45
BR-2025	20	5/8" x 1 1/8"	.80	.48
BR-4025	40	5/8" x 2 1/2"	.95	.57
350 VOLTS D.C.				
BR-435	4	5/8" x 1 1/8"	.50	.30
BR-835	8	5/8" x 1 1/8"	.55	.33
BR-1235	12	5/8" x 2"	.70	.42
BR-1635	16	5/8" x 2"	.80	.48
450 VOLTS D.C.				
BR-445	4	5/8" x 1 1/8"	.55	.33
BR-845	8	5/8" x 2"	.60	.36
BR-1245	12	5/8" x 2"	.75	.45
BR-1645	16	5/8" x 2 1/4"	.90	.54
BR-2045	20	1" x 2 1/2"	1.00	.60
500 VOLTS D.C.				
BR-850	8	5/8" x 1 1/8"	.85	.51
BR-1650	16	1" x 2 1/2"	1.30	.78

DUAL TUBULAR UNITS



TYPE BRL—DUAL "BEAVERS"

New C-D Development, Type BRL Dual Tubular Electrolytics, remarkable for their handy size, ease of wiring and other fine characteristics. Units are slightly longer than Type BR because tube ends are generously potted with high melting point wax, helping to embed the wire leads firmly and keep the capacitor moisture-proof.

Types BRL are dual, common negative units. The polarity of the leads is clearly defined by color coding stamped on the cardboard tube casing. Units are provided with a mounting strap around the center of the cardboard tube casing which enables mounting with only one screw under the chassis assembly.

Over sixty different processes are involved in what appears to be a simple unit! Most of these processes must be closely controlled in order to obtain best results. Chemical solutions must be kept to rigid specifications; forming voltages must be of certain potentials; temperatures, humidity control and every phase of making these little tubulars is most carefully watched.

FEATURES OF TYPE BRL

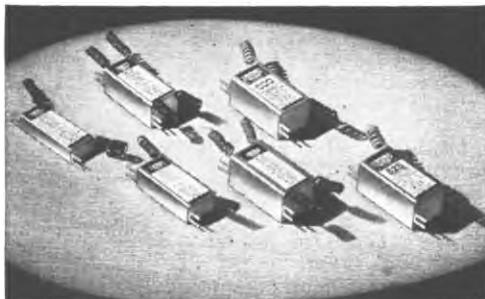
- 1—Exclusive Electro-Chemical Etching—Eliminates corrosion.
- 2—Hi-Formation Process—Affords higher voltage breakdown.
- 3—Hi-Pressure Centrifuge—Better impregnation; lower power factor.
- 4—Hi-Purity Aluminum Foil—Better direct current leakage recovery.
- 5—Special C-D Super-Purity Cellulose Separator—Extra long life.
- 6—Rigid Chemical Purity Control—Uniform performance.
- 7—Double Ageing—Stable characteristics.
- 8—Specially-treated Cardboard Tube—Protection against humidity.
- 8—Special Wax-Poured Ends—Added mechanical strength for leads.
- 10—Tubular, Compact Construction—Allows ease of wiring into circuit.

Cat. No.	Capacity Mfd.	Size	List Price	Net Price
		Diameter x Length		
450 VOLTS D.C.				
BRL-8845	8-8	1" x 2 3/4"	\$1.05	\$0.63
BRL-8145	8-16	1 1/8" x 3 1/4"	1.35	.81
250 VOLTS D.C.				
BRL-8125	8-16	7/8" x 2 3/4"	1.05	.63
BRL-1125	16-16	1" x 2 3/4"	1.25	.75
150 VOLTS D.C.				
BRL-3815	8-8	3/4" x 2 1/4"	.80	.48
BRL-8115	8-16	5/8" x 2 1/4"	.85	.51
BRL-2215	20-20	7/8" x 2 1/2"	1.05	.63
50 VOLTS D.C.				
BRL-3055	5-5	5/8" x 1 3/4"	.75	.45
BRL-115	10-10	5/8" x 2 1/4"	.85	.51
25 VOLTS D.C.				
BRL-2055	5-5	5/8" x 1 3/4"	.60	.36
BRL-2101	10-10	3/8" x 1 3/4"	.70	.42



DRY ELECTROLYTIC CAPACITORS

MIDGET CARDBOARD BOX UNITS



TYPES JR, JRC and JRX

Compact C-D HANDI-MIKES in their silvered cartons and with their superb electrical characteristics have won universal recognition. Equipped with convenient mounting feet, color-coded wire leads, they have specially treated inner liner cartons into which the capacitor winding is potted with pure, moisture-proof wax, affording protection against temperature and humidity changes.

FEATURES OF TYPES JR, JRC and JRX

- 1—Exclusive Electro-Chemical Etching—Eliminates corrosion.
- 2—Hi-Formation Process—Affords higher voltage breakdown.
- 3—Hi-Pressure Centrifuge—Better impregnation; lower power factor.
- 4—Hi-Purity Aluminum Foil—Better direct current leakage recovery.
- 5—Special C-D Super-Purity Cellulose Separator—Extra long life.
- 6—Rigid Chemical Purity Control—Uniform performance.
- 7—Double Ageing—Stable characteristics.
- 8—Triple Potting—Better weather-proofing.
- 9—Double Carton Containers—Better resistance to humidity.
- 10—Outer Carton Wax-Dipped—Added protection.

TYPES JRX and JR — Single Section Units

Cat. No.	Capacity Mfd.	Size Width x Height x Length	List Price	Net Price
250 VOLTS D.C.				
JRX-204	4	3/2" x 3/4" x 2 1/2"	\$0.65	\$0.39
JRX-208	8	3/8" x 1" x 2 1/2"	.80	.48
JRX-210	10	3/8" x 1" x 2 1/2"	.95	.57
JRX-212	12	3/8" x 1 1/8" x 2 1/2"	1.00	.60
JRX-216	16	3/8" x 1 1/8" x 2 1/2"	1.10	.66
450 VOLTS D.C.				
JR-502	2	3/2" x 3/4" x 2 1/2"	.65	.39
JR-504	4	3/8" x 1" x 2 1/2"	.75	.45
JR-506	6	3/8" x 1" x 2 1/2"	.90	.54
JR-508	8	3/8" x 1 1/8" x 2 1/2"	.95	.57
JR-510	10	3/8" x 1 1/8" x 2 1/2"	1.15	.69
JR-512	12	3/8" x 1 1/8" x 2 1/2"	1.30	.78
JR-516	16	1" x 1 1/8" x 2 1/2"	1.45	.87

TYPE JRC — Common Negative Units

Cat. No.	Capacity Mfd.	Size Width x Height x Length	List Price	Net Price
250 VOLTS D.C.				
JRC-244	4-4	3/8" x 1" x 2 1/2"	\$0.90	\$0.54
JRC-248	4-8	3/8" x 1" x 2 1/2"	1.15	.69
JRC-288	8-8	3/8" x 1 1/8" x 2 1/2"	1.30	.78
JRC-2888	8-8-8	3/8" x 1 1/8" x 2 1/2"	1.95	1.17
450 VOLTS D.C.				
JRC-544	4-4	3/8" x 1 1/8" x 2 1/2"	1.20	.72
JRC-548	4-8	3/8" x 1 1/8" x 2 1/2"	1.35	.81
JRC-588	8-8	3/8" x 1 1/8" x 2 1/2"	1.50	.90
JRC-5888	8-8-8	1 1/8" x 1 1/8" x 2 1/2"	2.20	1.32

TYPES JRX and JR — Separate Section Units

Cat. No.	Capacity Mfd.	Size Width x Height x Length	List Price	Net Price
250 VOLTS D.C.				
JRX-244	4-4	3/8" x 1 1/8" x 2 1/2"	\$0.90	\$0.54
JRX-248	4-8	3/8" x 1 1/8" x 2 1/2"	1.15	.69
JRX-288	8-8	1 1/8" x 1 1/8" x 2 1/2"	1.30	.78
JRX-2888	8-8-8	1 1/8" x 1 3/8" x 2 1/2"	1.95	1.17
JRX-2116	16-16	1 1/8" x 1 3/8" x 2 1/2"	1.80	1.08
450 VOLTS D.C.				
JR-544	4-4	3/8" x 1 1/8" x 2 1/2"	1.20	.72
JR-5444	4-4-4	1 1/8" x 1 3/8" x 2 1/2"	1.80	1.08
JR-548	4-8	1 1/8" x 1 1/8" x 2 1/2"	1.35	.81
JR-588	8-8	1 1/8" x 1 3/8" x 2 1/2"	1.50	.90
JR-5888	8-8-8	1 1/8" x 1 3/8" x 2 1/2"	2.20	1.32

MIDGET ALUMINUM CAN UNITS



TYPE UP

These C-D Type UP capacitors are the smallest can type electrolytic capacitors available. They are hermetically sealed in aluminum cans with positive terminal lugs on a bakelite insulating cover, the can being the common negative terminal.

Projecting tongues provide facilities for mounting in a vertical position on metal chassis bodies or on metal or bakelite mounting plates. The projecting tongues have small wire holes and are tinned for convenient soldering to common negative connections. All solder lugs are mechanically strong, being made of cold rolled steel, although nothing other than pure aluminum comes in contact with the electrolyte within the container to cause galvanic corrosion.

Electrically these Type UP units possess excellent characteristics, having exceptionally low leakage and power factor, and especially dependable in operation over wide temperature variations with minimum capacity change.

FEATURES OF TYPE UP

- 1—Exclusive Electric-Chemical Etching—Eliminates corrosion.
- 2—Hi-Formation Process—Affords higher voltage breakdown.
- 3—Hi-Pressure Centrifuge—Better impregnation; lower power factor.
- 4—Hi-Purity Aluminum Foil—Better direct current leakage recovery.
- 5—Special C-D Super-Purity Cellulose Separator—Extra long life.
- 6—Rigid Chemical Purity Control—Uniform performance.
- 7—Double Ageing—Stable characteristics.
- 8—All Aluminum Internal Construction—Eliminates galvanic corrosion.
- 9—Special Vent—Safety under all operating conditions.
- 10—Compact Construction—Ultimate in reduction of physical size.

Cat. No.	Capacity Mfd.	D.C.W. Volts	Size	List Price	Net Price
			Diam. x Length		
UP-1045	10	450	1" x 2"	\$0.75	\$0.45
UP-2045	20	450	1" x 2"	1.10	.66
UP-4045	40	450	1" x 3"	1.60	.96
UP-2215	20-20	150	1" x 2"	1.00	.60
UP-3315	30-30	150	1" x 2"	1.10	.66
UP-2225	20-20	250	1" x 2"	1.10	.66
UP-1145	10-10	450	1" x 2"	1.20	.72
UP-4C-J1	20-20-20	150	1" x 2"	1.20	.72
UP-4C-J2	30-20/20	150/25	1" x 2"	1.15	.69
UP-4C-J3	15-15/20	250/25	1" x 2"	1.10	.66
UP-4C-J4	10-10/20	450-350/25	1" x 2"	1.20	.72
UP-4C-J5	10-10/20	350/25	1" x 2"	1.10	.66
UP-4B-J6	15-30	150	1" x 2"	1.00	.60
UP-6C-J7	10-30-30	150	1" x 3"	1.25	.75
UP-4A-J10	30	250	1" x 2"	.90	.54
UP-6C-J11	10-20/30	250/350	1" x 3"	1.50	.90
UP-6C-J12	10-10/20	450/25	1" x 3"	1.30	.78
UP-6C-J13	10-20/20	450/25	1" x 3"	1.60	.96
UP-4C-J14	10-15-15	250	1" x 2"	1.15	.69
UP-10C-156	15-15/10	450/300	1" x 3 1/2"	1.55	.93

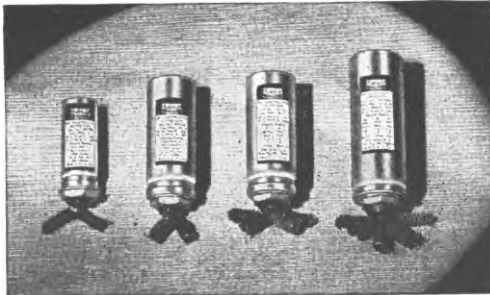
CORNELL



DUBILIER

DRY ELECTROLYTIC CAPACITORS

ALUMINUM CAN UNITS



TYPE KR

Extremely compact etched foil dry electrolytic capacitors. Withstand severe mechanical stress. Available in single, dual and triple sections with color-coded leads. Made in five popular voltage ratings: 250 V. D.C. for use in A.C.-D.C. or voltage-doubler midsets and 450 V.D.C. to serve a purposeful function in A.C. operated sets.

The substantial reduction in size of these capacitors allows their use in compact and portable amplifiers and receivers. Equipped with threaded metal neck integral with the can and pal nut. Fully wax-potted sections are carefully and completely insulated from the metal container.

FEATURES OF TYPE KR

- 1—Exclusive Electro-Chemical Etching—Eliminates corrosion.
- 2—Hi-Formation Process—Affords higher voltage breakdown.
- 3—Hi-Pressure Centrifuge—Better impregnation; lower power factor.
- 4—Hi-Purity Aluminum Foil—Better direct current leakage recovery.
- 5—Special C-D Super-Purity Cellulose Separator—Extra long life.
- 6—Rigid Chemical Purity Control—Uniform performance.
- 7—Double Ageing—Stable characteristics.
- 8—All Aluminum Construction—Eliminates galvanic corrosion.
- 9—Anchored Leads—Eliminates open and short circuits.
- 10—Universal Mounting—Unit mounts in any position on or under sub-panel.

TYPE KR—Single Section Units

Cat. No.	Capacity Mfd.	D.C. Working Volts	Size		List Price	Net Price
			Diam. x Length			
KR-105	50	25	1"	x 2 1/2"	\$1.05	\$0.63
KR-204	4	250	1"	x 2 1/2"	.75	.45
KR-208	8	250	1"	x 2 1/2"	.95	.57
KR-212	12	250	1"	x 2 1/2"	1.10	.66
KR-225	25	250	1"	x 3 1/2"	1.50	.90
KR-350	50	300	1 3/8"	x 3 3/4"	2.75	1.65
KR-504	4	450	1"	x 2 1/2"	.85	.51
KR-508	8	450	1"	x 2 1/2"	1.05	.63
KR-512-A	12	450	1"	x 2 1/2"	1.40	.84
KR-516-A	16	450	1"	x 3 1/2"	1.55	.93
KR-604	4	600	1 3/8"	x 3 3/4"	1.85	1.10
KR-608	8	600	1 3/8"	x 4 1/2"	2.60	1.56
KR-616	16	600	1 1/2"	x 4 1/2"	3.50	2.10

TYPE KRC—Common Negative Units

Cat. No.	Capacity Mfd.	D.C. Working Volts	Size	List Price	Net Price
			Diam. x Length		
KRC-248	4-8	250	1" x 3"	\$1.30	\$0.78
KRC-288	8-8	250	1" x 3"	1.45	.87
KRC-2888	8-8-8	250	1 3/8" x 3"	2.10	1.26
KRC-548	4-8	450	1" x 3"	1.45	.87
KRC-588	8-8	450	1 3/8" x 2 1/2"	1.60	.96
KRC-5888	8-8-8	450	1 3/8" x 3 1/2"	2.30	1.38

TYPE KR—Separate Section Units

Cat. No.	Capacity Mfd.	D.C. Working Volts	Size	List Price	Net Price
			Diam. x Length		
KR-288	4-8	250	1 3/8" x 2 3/4"	\$1.30	\$0.78
KR-288	8-8	250	1 3/8" x 2 3/4"	1.45	.87
KR-2888	8-8-8	250	1 3/8" x 3 1/2"	2.10	1.26
KR-2881	8-8-16	250	1 3/8" x 3 1/2"	2.35	1.41
KR-2811	8-16-16	250	1 3/8" x 3 1/2"	2.60	1.56
KR-548-A	4-8	450	1 3/8" x 3"	1.45	.87
KR-588-A	8-8	450	1 3/8" x 3"	1.60	.96
KR-5888-A	8-8-8	450	1 3/8" x 4"	2.30	1.38

ALUMINUM CAN UNITS



EB EA EP

Type EB has insulated, color-coded wire leads; in single section units, red lead is positive, black negative. In dual units, this combination holds for the one section, while a blue lead and its complementary yellow lead makes up the other section. In the EP and EA units, the central insulated terminal is the positive, while the metal container is the negative. In multiple section units, EP and EA, positive terminals are insulated and the container is common negative, most generally grounded to the chassis. EB and EP have lock washers and hexagon nuts, EA a mounting ring. An electrolytic capacitor lasts a long time if operated at or slightly under its rating.

Cat. No.	Capacity Mfd.	Size	List Price	Net Price
		Diam. x Length		
TYPE EB—450 V.D.C.				
EB-9040	4	1 3/8" x 2 1/2"	0.85	\$0.51
EB-9080	8	1 3/8" x 4 1/2"	1.05	.63
EB-9100	10	1 3/8" x 4 3/4"	1.25	.75
EB-9120	12	1 3/8" x 4 3/4"	1.40	.84
EB-9160	16	1 3/8" x 4 3/4"	1.55	.93
EB-9180	18	1 3/8" x 4 3/4"	1.65	.99
EB-4400	4-4	1 3/8" x 4 3/4"	1.30	.78
EB-4800	4-8	1 3/8" x 4 3/4"	1.45	.87
EB-8800	8-8	1 3/8" x 4 3/4"	1.60	.96
500 V.D.C.				
EB-11080	8	4 3/8" x 1 3/8"	1.70	1.05
TYPE EP—450 V.D.C.				
EP-9080	8	1 3/8" x 4 1/2"	1.05	.63
EP-9081	8-8	1" x 4 1/2"	1.05	.63
EP-9088	8-8	1 3/8" x 4 1/2"	1.60	.96
TYPE EA—450 V.D.C.				
EA-9080	8	1 3/8" x 4 3/4"	1.05	.63
EA-5150	5-15	2 1/8" x 4 3/4"	2.30	1.38
EA-8800*	8-8	2 1/8" x 4 3/4"	1.80	1.08
EA-8801	8-8	2 1/8" x 4 3/4"	1.80	1.08
EA-8160	8-16	2 1/8" x 4 3/4"	2.55	1.41
EA-8880	8-8-8	2 3/8" x 4 3/4"	2.70	1.62
EA-9918	9-9-18	3" x 4 3/4"	3.75	2.25
EA-9911	9-9-18-18	3 1/2" x 4 3/4"	5.25	3.15

(* Cat. No. EA-8800 is a dual, separate-section 4-terminal capacitor.

CARDBOARD BOX UNITS



EE EH

C-D "HI-MIKES" are standby real "heavy-duty" units for every radio set's filter circuit wherever an extra dependable filter capacitor is needed. Type EH has mounting flanges (which may be easily cut off if necessary). Type EH dual units are available in separate section construction, having four color-coded wire leads; also in common negative three lug-terminal assembly, with two positive and one negative terminals. Triple section units have four leads, three of which are positive and the fourth, common negative. No deviation is made from this practice because most circuit combinations can be successfully met by the use of one or more of capacitors listed. (L denotes wire leads; SL separate leads.)

Cat. No.	Capacity Mfd.	Size	List Price	Net Price
		Length Width Thck.		
450 V.D.C.				
EH-9400	4	4 3/8" x 1 3/8" x 3/8"	\$0.75	\$0.45
EH-9400L	4	4 3/8" x 1 3/8" x 1 3/8"	.75	.45
EH-9800	8	4 3/8" x 1 3/8" x 1 3/8"	.95	.57
EH-9800L	8	4 3/8" x 1 3/8" x 1 3/8"	.95	.57
EH-9160	16	4 3/8" x 1 3/8" x 1 3/8"	1.45	.87
EP-9404	4-4	4 3/8" x 1 3/8" x 1 3/8"	1.20	.72
EH-9404SL	4-4	4 3/8" x 1 3/8" x 1 3/8"	1.20	.72
EH-9408	4-8	4 3/8" x 1 3/8" x 1 3/8"	1.35	.81
EH-9408SL	4-8	4 3/8" x 1 3/8" x 1 3/8"	1.35	.81
EH-9808	8-8	4 3/8" x 1 3/8" x 1 3/8"	1.50	.90
EH-9808SL	8-8	4 3/8" x 1 3/8" x 1 3/8"	1.50	.90
EH-9444L	4-4-4	4 3/8" x 1 3/8" x 1 3/8"	1.80	1.08
EH-9888L	8-8-8	4 3/8" x 2" x 2"	2.20	1.32
TYPE EE—450 V.D.C.				
EE-9080	8	4 3/8" x 1 3/8" x 3/8"	.95	.57
EE-9080L	8	4 3/8" x 1 3/8" x 3/8"	.95	.57

CORNELL



DUBILIER

DRY ELECTROLYTIC CAPACITORS

HIGH CAPACITY—LOW VOLTAGE UNITS



FA

EVL

C-D High Capacity-Low Voltage Electrolytic Capacitors, Types EVL and FA, are specially designed for use as replacements in "A" eliminators, low-voltage rectifier circuits, for talking pictures and other low-voltage applications where hum-proof operation of dynamic speakers is required; such as in theatres, auditoriums and public address systems. Their physical size for given capacity and voltage rating makes them ideally suited for use where compactness is of primary importance.

Rectangular type EVL capacitors are internally insulated from the metal container, while the round can type FA units are furnished with an external cardboard insulating sleeve. Type EVL units are provided with solder lug terminals, type FA with screw terminals moulded into a bakelite head. Polarity must be observed.

FEATURES OF TYPES EVL and FA

- 1—Hi-Formation Process—Affords higher voltage breakdown.
- 2—Hi-Pressure Centrifuge—Better impregnation; lower power factor.
- 3—Hi-Purity Aluminum Foil—Better direct current leakage recovery.
- 4—Special C-D Super-Cellulose Separator—Extra long life.
- 5—Rigid Chemical Purity Control—Uniform performance.
- 6—Double Ageing—Stable characteristics.
- 7—Complete Wax Potting—Better weather-proofing.
- 8—Compact Design—For small size assemblies.
- 9—Choice of Design—Available in rectangular or round can types.
- 10—Universal Mounting—Units mount in any position.

TYPE EVL

Cat. No.	Cap. Mfd.	Height x Width x Depth	List Price	Net Price
12 VOLTS D.C. WORKING				
EVL-1205	500	4 1/4" x 2 1/8" x 1 1/8"	\$2.38	\$1.42
EVL-1210	1000	4 1/4" x 2 1/8" x 1 1/8"	3.56	2.13
EVL-1220	2000	6 1/4" x 2 1/4" x 2 1/4"	6.32	3.79
EVL-1230	3000	6 1/4" x 3" x 3"	9.24	5.55
EVL-1240	4000	6 1/4" x 3" x 3"	11.96	7.18
15 VOLTS D.C. WORKING				
EVL-1505	500	4 1/4" x 2 1/8" x 1 1/8"	2.52	1.51
EVL-1510	1000	4 1/4" x 2 1/8" x 2 1/8"	4.24	2.54
EVL-1520	2000	6 1/4" x 2 1/4" x 2 1/4"	7.76	4.65
18 VOLTS D.C. WORKING				
EVL-1805	500	4 1/4" x 2 1/8" x 1 1/8"	2.84	1.70
EVL-1810	1000	6 1/4" x 2 1/4" x 2 1/4"	4.96	2.97
EVL-1820	2000	6 1/4" x 3" x 3 3/4"	9.16	5.49
25 VOLTS D.C. WORKING				
EVL-2505	500	4 1/4" x 2 1/8" x 2 1/8"	3.76	2.25
EVL-2510	1000	6 1/4" x 2 1/4" x 2 1/4"	6.56	3.93
EVL-2520	2000	6 1/4" x 3" x 3 3/4"	12.44	7.46
35 VOLTS D.C. WORKING				
EVL-3510	1000	6 1/4" x 2 1/4" x 2 1/4"	8.90	5.34
EVL-3520	2000	6 1/4" x 3" x 3"	17.50	10.50
EVL-3530	3000	6 1/4" x 4" x 4"	25.24	15.15

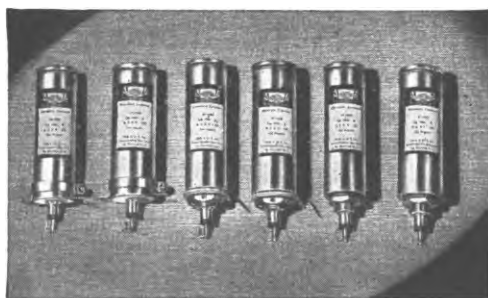
TYPE FA

Diameter x Length

Cat. No.	Cap. Mfd.	Diameter x Length	List Price	Net Price
12 VOLTS D.C. WORKING				
FA-1205	500	1 3/8" x 2 1/2"	\$2.38	\$1.42
FA-1210	1000	1 3/8" x 3 1/4"	3.56	2.13
FA-1220	2000	1 3/8" x 4 1/2"	6.32	3.79
15 VOLTS D.C. WORKING				
FA-1505	500	1 3/8" x 2 1/2"	2.52	1.51
FA-1510	1000	1 3/8" x 3 1/4"	4.24	2.54
FA-1520	2000	1 3/8" x 4 1/2"	7.76	4.65
18 VOLTS D.C. WORKING				
FA-1805	500	1 3/8" x 2 1/2"	2.84	1.70
FA-1810	1000	1 3/8" x 3 1/4"	4.96	2.97
FA-1820	2000	1 3/8" x 4 1/2"	9.16	5.49
25 VOLTS D.C. WORKING				
FA-2505	500	1 3/8" x 3 1/4"	3.76	2.25
FA-2510	1000	1 3/8" x 4 1/2"	6.56	3.93
FA-2520	2000	1 3/8" x 4 1/2"	12.44	7.46
35 VOLTS D.C. WORKING				
FA-3510	1000	1 3/4" x 4 1/2"	8.90	5.34
FA-3520	2000	2 1/2" x 4 1/2"	17.50	10.50

Other units of higher voltage ratings are available on special order.

WET ELECTROLYTIC CAPACITORS



EX

EY

C-D "HI-MIKE" WET ELECTROLYTICS, with high scintillation point, are mechanically and electrically perfected units. Vented, to allow generated gas to escape harmlessly, these self-healing units have remarkably long life . . . and fine filtering efficiency. Possessing a certain amount of "self-regulation" properties, special designs are available to meet definite regulation characteristics.

Type EY is provided with a pal nut. Insulating washers and large ground lug are optional, at slight extra cost, and are used to insulate the metal container, which is the negative terminal, from the chassis when required. Type EX has a mounting ring.

FEATURES OF TYPES EX and EY

- 1—Exclusive Electro-Chemical Etching—Eliminates corrosion.
- 2—Hi-Formation Process—Affords higher scintillation voltages.
- 3—Hi-Purity Aluminum Foil—Better direct current leakage recovery.
- 4—Special Cleaning Process—Assures longer life at higher ambient heat.
- 5—Hi-Purity Electrolyte—Longer idle and active life.
- 6—Positive Vent Construction—Always works; prevents accident.
- 7—Inverted and Vertical Mounting—Simple to install; mechanically strong.

TYPE EY

Cat. No.	Cap. Mfd.	Size Diameter x Length	List Price	Net Price
500 VOLTS D.C. WORKING—600 PEAK VOLTS				
EY-11040	4	1 3/8" x 4 1/2"	\$1.30	\$0.78
EY-11080	8	1 3/8" x 4 1/2"	1.50	.90
EY-11081	8	1 1/2" x 4 1/2"	1.50	.90
EY-11100	10	1 1/2" x 4 1/2"	1.60	.96
EY-11600	16	1 1/2" x 4 1/2"	2.00	1.20
450 VOLTS D.C. WORKING—500 PEAK VOLTS				
EY-9040	4	1 3/8" x 4 1/2"	\$0.80	\$0.48
EY-9043	4	1" x 3 1/2"	.80	.48
EY-9080	8	1 3/8" x 4 1/2"	.95	.57
EY-9081	8	1 1/2" x 4 1/2"	.95	.57
EY-9082	8	1" x 4 1/2"	.95	.57
EY-9083	8	1" x 3 3/8"	.95	.57
EY-9084	8	1 3/8" x 3 3/8"	.95	.57
EY-9100	10	1 1/2" x 4 1/2"	1.05	.63
EY-9120	12	1 3/8" x 4 1/2"	1.15	.69
EY-9124	12	1 3/8" x 3 3/8"	1.15	.69
EY-9160	16	1 1/2" x 4 1/2"	1.35	.81
EY-9164	16	1 3/8" x 3 3/8"	1.35	.81
EY-9180	18	1 1/2" x 4 1/2"	1.50	.90
EY-9184	18	1 3/8" x 3 3/8"	1.50	.90
EY-9200	20	1 1/2" x 4 1/2"	1.50	.90
EY-9240	24	1 3/8" x 4 1/2"	1.65	.99
EY-9250	25	1 3/8" x 4 1/2"	1.65	.99
EY-9300	30	1 1/2" x 4 1/2"	1.70	1.02
EY-9350	35	1 1/2" x 4 1/2"	1.75	1.05
EY-9400	40	1 1/2" x 4 1/2"	1.90	1.14
300 VOLTS D.C. WORKING—350 PEAK VOLTS				
EY-7082	8	1" x 4 1/2"	\$0.90	\$0.54
EY-7180	18	1 3/8" x 4 1/2"	1.25	.75
EY-7240	24	1 3/8" x 4 1/2"	1.50	.90
EY-7301	30	1 3/8" x 4 1/2"	1.60	.96
EY-7350	35	1 1/2" x 4 1/2"	1.75	1.05
250 VOLTS D.C. WORKING—300 PEAK VOLTS				
EY-6080	8	1" x 3 3/8"	\$0.85	\$0.51
EY-6160	16	1" x 3 3/8"	1.05	.63
150 VOLTS D.C. WORKING—200 PEAK VOLTS				
EY-5202	20	1" x 4 1/2"	\$1.10	\$0.66
EY-5400	40	1 3/8" x 4 1/2"	1.25	.75
TYPE EX				
500 VOLTS D.C. WORKING—600 PEAK VOLTS				
EX-11080	8	1 3/8" x 4 1/2"	\$1.50	\$0.90
450 VOLTS D.C. WORKING—500 PEAK VOLTS				
EX-9080	8	1 3/8" x 4 1/2"	\$0.95	\$0.57

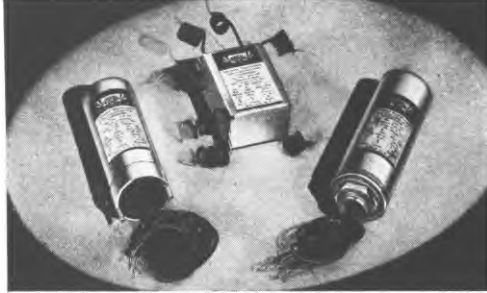
CORNELL



DUBILIER

REPLACEMENT CAPACITORS

ELECTROLYTIC REPLACEMENTS



TYPE UM

Cat. No.	Capacity Mfd.	D.C. Working Volts	Size LgthxWidth Hgt.: or Diam. x Length	List Price	Net Price
UM-100*	8-16 10-10	200	5/8"x1 1/8"x2 1/2"	\$2.15	\$1.29
UM-101†	8-16 10-10	250	1 3/8"x3 1/4"	2.30	1.38
UM-102‡	8-15 10-10	250	1 3/8"x3 5/8"	2.40	1.44
UM-104*	4-4-4	150	5/8"x1 1/4"x2 1/4"	1.35	.81
UM-106*	8-8-8-8	250	1 1/4"x1 1/2"x3"	2.60	1.56
UM-107*	5-25-10	150	1 3/8"x1 3/8"x2 3/8"	1.95	1.17
UM-108*	8-8	250-300	1 1/8"x1 1/8"x2 1/4"	1.30	.78
UM-111†	3 2-1-1	450	1 3/8"x2 1/4"	2.10	1.26
UM-112†	8-8-8 5-5	200	1 3/8"x3 1/4"	2.50	1.50
UM-113*	8-8-8 5-5	200	1 1/4"x1 1/2"x3"	2.50	1.50
UM-115*	8-8-8-8	450	1 5/8"x1 3/4"x3"	2.95	1.77
UM-116*	20-20	150	1 3/8"x1 3/8"x2 3/8"	1.65	.99
UM-117*	5-8-16	150	1 1/8"x1 1/4"x2 1/2"	1.80	1.08
UM-118‡	16-12	200	1 3/8"x3 1/4"	1.55	.93
UM-119*	8-12	300	1 1/4"x1 7/8"x2 3/4"	1.55	.93
UM-120†	6-4-6	300-300-25	1 3/8"x2 3/8"	1.70	1.02
UM-121‡	8-30	300-30	1 1/4"x4 5/8"	1.35	.81
UM-122*	3-5-6	300-300-12	1 1/8"x1 3/8"x2"	1.50	.90
UM-123†	8-8	350	1 3/8"x3 1/8"	1.55	.93
UM-124†	6-6	350	1 1/8"x1 3/8"x2 7/8"	1.35	.81
UM-125*	6-4-6	300-300-12	1 1/8"x1 3/8"x2 7/8"	1.55	.93
UM-126‡	65	30	1 1/4"x2 1/4"	1.10	.66
UM-127†	8-8-25	400-400-25	1 3/8"x2 3/4"	2.10	1.26
UM-128*	8-8-25	400-400-25	1 5/8"x1 5/8"x2 3/8"	1.90	1.14
UM-129*	8-8-25	350-300-35	2 1/2"x2 1/2"x2 1/2"	1.85	1.11
UM-130†	8-8, 16-16	350, 100	1 3/8"x4 3/8"	2.90	1.74
UM-131*	16-30-16	200	1 3/4"x1 3/8"x4"	2.75	1.65
UM-132*	8, 8-8, 12-12	450, 250	1 7/8"x2 3/4"x2 5/8"	2.90	1.74
UM-133†	8-8-8	450-450-350	1 3/8"x2 3/4"	2.25	1.35
UM-134*	8-8-8	450-450-350	1 3/8"x4 3/8"	2.25	1.35
UM-135*	16-16-10	150-150-25	1 3/8"x2 3/4"	1.95	1.17
UM-136*	5-20-10, 5	150, 25	1 1/8"x1 3/8"x2 1/8"	2.25	1.35
UM-137*	5-5	35	3/4"x 3/4"x1 1/2"	1.75	.45
UM-138*	30-10	150	3/4"x1 3/4"x3 1/2"	1.55	.93
UM-139‡	8-16, 5-5	200, 50	1 3/8"x2 3/8"	2.15	1.29
UM-140*	8-8, 12	350-25	1 5/8"x1 3/8"x2 3/8"	1.75	1.05
UM-141‡	16-2-2, 25	450-25	1 1/2"x4 1/2"	2.60	1.56
UM-142*	4-4-10-4	300-300-150-25	1 5/8"x1 3/8"x3 3/4"	2.05	1.23
UM-143*	8-8, 5-5	450, 50	1 7/8"x1 3/8"x4 3/8"	2.20	1.32
UM-144*	8-4-4-12	450-350-150-25	1 5/8"x1 3/8"x3 3/8"	2.05	1.23
UM-145*	4-4	450-150	1 1/8"x1 3/8"x3 3/4"	1.05	.63
UM-146†	8-8-10	300-300-25	1 1/2"x2 3/4"	1.85	1.11
UM-147*	6-4-10	350-300-25	1 3/4"x1 3/8"x4 1/2"	1.65	.99
UM-148*	16-8-10	150-150-25	1 1/2"x1 1/2"x4"	1.75	1.05
UM-149*	4-12-16	150	1 1/4"x1 1/4"x2 3/4"	1.85	1.11
UM-150†	6-4-16	350-350-25	1 1/8"x3 3/4"	1.60	.96
UM-151‡	6-6	250	1 1/4"x 3/4"	1.15	.69

Containers: *Carton; †Round Can; ‡Cardboard Tube.

PAPER REPLACEMENTS EXACT DUPLICATES FOR STANDARD SETS



Type SW



Type AK



Type MC

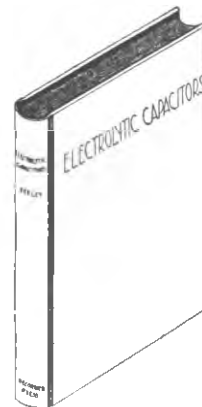
Manufacturer and Part No.	C-D Cat. No.	Size	List Price	Net Price
ATWATER-KENT 37- 9497 37- 9575	AK-201 AK-202	3 x .25 .25	\$1.70 .70	\$1.02 .42
COLONIAL 1728SA 1748SA	CN-400 CN-401	3 x .1-.25 .1-.25	1.25 .90	.75 .54
CROSLLEY W4919	C-57	.5	.75	.45
GREBE SK-4	SG-217	2 x .1	.80	.48
MAJESTIC 7BP6 7P6 8P6 9P6	MC-101 MC-102 MC-103 MC-104	10 9 9 7	4.50 4.50 9.00 4.50	2.70 2.70 5.40 2.70
SPARTON A5032 1334 A5033 1335 A5031	SW-311 SW-312 SW-320	1 2 .5	.90 .75 .80	.54 .45 .48

"ELECTROLYTIC CAPACITORS"

By PAUL McK. DEELEY

Chief Engineer of the Electrolytic Division

CORNELL-DUBILIER ELECTRIC CORPORATION



Here in one masterly volume, "Electrolytic Capacitors" — just off the press, you will find a wealth of the most practical information ever published on the subject of electrolytics.

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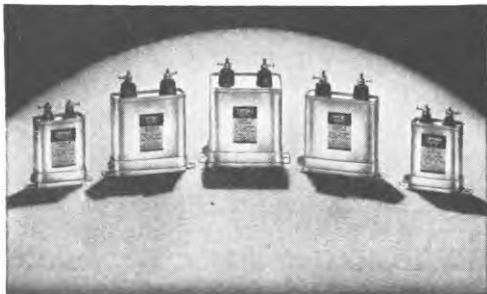
CORNELL



DUBILIER

DYKANOL TRANSMITTING CAPACITORS

HIGH VOLTAGE CAPACITORS



TYPE TJU

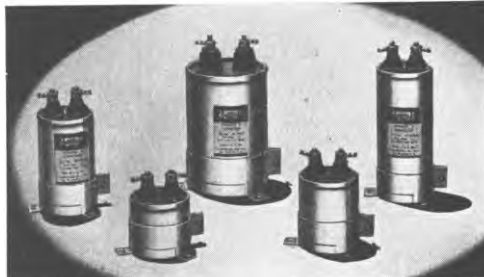
C-D Dykanol Transmitting Filter Capacitors Type TJU are without doubt the most dependable units offered to the radio trade—amateur, broadcast and commercial. Beautifully designed, compact, light-weight, safely-rated, furnished with universal mounting clamp, well-insulated terminals, fireproof. These are the capacitors which practically every broadcast and government station in the world uses with such marked success. Standard equipment with tens of thousands of amateurs. Fully guaranteed. Note the new low prices, making it possible for the first time to obtain in a C-D Dykanol unit a highly engineered transmitting filter capacitor at the lowest prices ever offered. Note: Dykanol is a stable chemical compound and will not give off free chlorine regardless of voltage stress or temperature. (For higher voltage units 6000 to 25,000 V.D.C. see Cat. No. 160-T which is available to accredited engineering, educational, broadcasting and manufacturing institutions on request.

FEATURES OF TYPE TJU

- 1 Dykanol (Chlorinated Diphenyl) Impregnated and Filled—Long life; small size; lower power factor; non-inflammable.
- 2—Hi-Purity Aluminum Foil—Lower R.F. resistance; light weight.
- 3—Hi-Purity Multi-Laminated Kraft Tissue—Higher voltage breakdown; minimum leakage; high I.R.
- 4—Vacuum Dried and Impregnated—Lower equivalent series resistance; longer life.
- 5—Hermetically Sealed—Not affected by moisture, time or temperature up to 200° F.
- 6—Adequate Terminal Insulators—Glazed porcelain or bakelite according to rating.
- 7—Sturdy Steel Container, Aluminum Painted—Non-corrosive, strong.
- 8—Universal, Steel Mounting Strap—Allows mounting unit in any position.
- 9—Rigidly tested—Uniform product.
- 10—Conservative D.C. Rating—Triple testing assures dependable service.
- 11—Approved by Fire Underwriters—Absolutely safe under all conditions; fireproof; extra high dielectric strength.

Cat. No.	Capacity Mfd.	Size Height x Width x Depth	List Price	Net Price
600 VOLTS D.C.				
TJU-6005	.5	2 1/2" x 1 1/2" x 1 1/2"	\$2.75	\$1.66
TJU-6010	1	2 1/2" x 1 1/2" x 1 1/2"	3.50	2.10
TJU-6020	2	2 1/2" x 1 1/2" x 1 1/2"	4.25	2.55
TJU-6040	4	3 3/8" x 2 1/2" x 1 1/2"	5.50	3.30
1000 VOLTS D.C.				
TJU-10005	.5	2 1/2" x 1 1/2" x 1 1/2"	3.00	1.80
TJU-10010	1	2 3/8" x 1 1/2" x 1 1/2"	3.75	2.25
TJU-10020	2	4" x 1 1/2" x 1 1/2"	5.00	3.00
TJU-10040	4	4 3/8" x 2 1/2" x 1 1/2"	6.25	3.75
TJU-10100	10	4 3/8" x 3 3/8" x 1 1/2"	10.00	6.00
TJU-10150	15	4 3/8" x 3 3/8" x 2 1/2"	12.00	7.20
1500 VOLTS D.C.				
TJU-15010	1	4 1/4" x 1 1/2" x 1 1/2"	4.50	2.70
TJU-15020	2	4 1/4" x 2 1/2" x 1 1/2"	6.25	3.75
TJU-15040	4	4 3/8" x 3 3/8" x 1 1/2"	8.50	5.10
TJU-15100	10	4 3/8" x 3 3/8" x 3 3/8"	15.00	9.00
2000 VOLTS D.C.				
TJU-20010	1	3 3/4" x 2 1/2" x 1 1/2"	5.50	3.30
TJU-20020	2	4" x 3 3/8" x 1 1/2"	6.50	3.90
TJU-20040	4	3 3/8" x 3 3/8" x 2 1/2"	9.00	5.40
TJU-20060	6	4 3/8" x 3 3/8" x 3 3/8"	11.75	7.05
TJU-20080	8	4 3/8" x 3 3/8" x 3 3/8"	15.00	9.00
TJU-20100	10	4 3/8" x 3 3/8" x 4 3/8"	18.50	11.10
2500 VOLTS D.C.				
TJU-25010	1	3 3/4" x 3 3/8" x 1 1/2"	8.00	4.80
TJU-25020	2	4 1/4" x 3 3/8" x 1 1/2"	13.00	7.80
TJU-25040	4	4" x 3 3/8" x 4 3/8"	18.00	10.80
TJU-25100	10	6 3/8" x 3 3/8" x 5 3/8"	45.00	27.00
3000 VOLTS D.C.				
TJU-30001	.1	2" x 2 1/2" x 1 1/2"	8.50	5.10
TJU-300025	.25	2 1/2" x 2 1/2" x 1 1/2"	9.00	5.40
TJU-30005	.5	3 3/8" x 2 1/2" x 1 1/2"	10.00	6.00
TJU-30010	1	3 3/8" x 3 3/8" x 2 1/2"	12.00	7.20
TJU-30020	2	4 3/8" x 3 3/8" x 3 3/8"	15.00	9.00
TJU-30040	4	4 3/8" x 3 3/8" x 4 3/8"	22.00	13.20
5000 VOLTS D.C.				
TJU-50010	1	4 1/4" x 3 3/8" x 4 3/8"	25.00	15.00
TJU-50020	2	6" x 3 3/8" x 4 3/8"	32.00	19.20
6000 VOLTS D.C.				
TJU-60010A	1	8" x 3 3/8" x 4 3/8"	50.00	30.00

CYLINDRICAL CAN CAPACITORS



TYPE TQ

CORNELL-DUBILIER, Type TQ DYKANOL Capacitors, in cylindrical aluminum containers are provided with two insulated terminals and universal mounting bracket for mounting the unit in any position with terminals either above or below a subpanel assembly. These units are designed primarily for filter circuits in amateur, low-power broadcast and commercial transmitters. They are also adapted for high-power, high-fidelity public address systems and portable power amplifiers. All units are designed and built to stand up under conditions of severe transient voltages and line surges in continuous duty operation.

Cat. No.	Capacity Mfd.	Size Length x Diameter	List Price	Net Price
600 VOLTS D.C.				
TQ-6020	2	2 1/2" x 2"	\$3.25	\$1.95
TQ-6040	4	2 3/4" x 2"	4.50	2.70
1000 VOLTS D.C.				
TQ-10010	1	1 1/2" x 2"	2.75	1.65
TQ-10020	2	2 1/2" x 2"	3.75	2.25
TQ-10040	4	3 3/8" x 3"	4.75	2.85
1500 VOLTS D.C.				
TQ-15010	1	2 3/8" x 2"	3.50	2.10
TQ-15020	2	3 3/8" x 2"	4.75	2.85
2000 VOLTS D.C.				
TQ-20010	1	3 1/4" x 2"	4.50	2.70
TQ-20020	2	4 1/4" x 2"	5.00	3.00
TQ-20040	4	4 3/8" x 3"	7.00	4.20
3000 VOLTS D.C.				
TQ-30010	1	3 1/4" x 3"	9.00	5.40
TQ-30020	2	5 1/4" x 3"	11.00	6.60

DYKANOL FILTER CAPACITORS



TYPE TLA

Solving the need for a compact high-voltage filter capacitor to use with high-fidelity P.A. amplifiers, power supplies for short-wave portable transmitters and transceivers, Type TLA Dykanol Filter Units in cylindrical aluminum containers are ideal in every respect. One terminal is well insulated, the other being the metal can itself. Substantially made, Will withstand transient voltages as well as high-peak voltage surges. Designed to operate for continuous, full-load duty. Insulating washers are well as a large spade lug are provided so that the metal container may be insulated from the chassis. Dykanol has a dielectric constant of 4.8, a power factor of .3%, and enables the fabrication of capacitors having a direct current resistance of 10,000 megohms per microfarad, of small size and high insulation resistance. An appreciably lower space factor accounts for the substantial reduction in physical size for a given capacity and voltage rating.

V.D.C.	Cat. No.	Capacity Mfd.	Size Length by Diameter	List Price	Net Price
600	TLA-6020	2	2 1/2" x 1 1/2"	\$2.75	\$1.65
	TLA-6030	3	4 1/2" x 1 1/2"	3.25	1.95
	TLA-6040	4	4 1/2" x 1 1/2"	3.75	2.25
1000	TLA-10010	1	2 1/2" x 1 1/2"	2.50	1.50
	TLA-10020	2	4 1/2" x 1 1/2"	3.25	1.95
1500	TLA-15005	.5	2 1/2" x 1 1/2"	3.00	1.80
	TLA-15010	1	4 1/2" x 1 1/2"	3.25	1.95



AMATEUR MICA TRANSMITTING CAPACITORS



TYPE 86

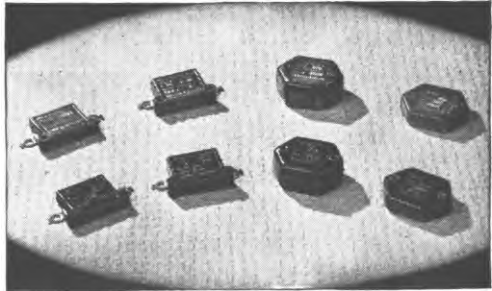
C-D Type 86 Mica Capacitors in dehydrated porcelain cases have been designed for amateur radio communication, 'fone, CW and ICW, for plate blocking, grid, buffer, tank, and antenna coupling purposes. Widely imitated, copied, but never duplicated, these patented-construction units are serving in thousands of "ham" rigs with greatest efficiency. By selecting the very best grade of india ruby mica, C-D Type 86 capacitors have very low radio frequency resistance and power factor, but extremely high direct current resistance and negligible power losses. The patented design has successfully eliminated corona and reduces internal heating, so that the Q or quality characteristic, so important to amateur communication on high frequencies, is exceptionally high. Dielectric loss in these units is remarkably low, thereby providing high efficiency operation. You'll find it pays to insist on C-D's.

FEATURES OF TYPE 86

- 1—Patented Series Mica Stack—Eliminates corona losses.
- 2—Horizontal Stack Construction—Wide separation of leads; maximum insulation.
- 3—Soldered Foils—Affords high current rating.
- 4—Mica Separators—Each section carefully insulated.
- 5—India Ruby Mica Dielectric—Lower power factor; high Q.
- 6—Vacuum Impregnated Assembly—Low loss; high insulation; no air voids.
- 7—Special Low Loss Filler—Reduces stray losses.
- 8—Short Heavy Brass Stud Terminals—Low resistance connection.
- 9—Insulated Clamp Holder—No internal voltage arc-over.
- 10—Black Glazed Porcelain Dehydrated Case—Low R. F. losses.

Cat. No.	Cap. Mfd.	Max. D.C. Volt.	Maximum Current in Amps.					List Price	Net Price
			30 mc 10M	15000 ke 20M	7500 ke 40M	3750 ke 80M	1875 ke 160M		
45A-86	.00005	12,500	3.5	3	2.5	1.5	1	\$5.50	\$3.30
31A-86	.0001	12,500	5	5	4	3	2	5.00	3.00
325A-86	.00025	12,500	5	7	8	6	4	5.50	3.30
35A-86	.0005	12,500	5	8	9	8	7	5.50	3.30
35C-86	.0005	7,000	5	7	8	6	4	4.50	2.70
21A-86	.001	12,500	5	9	10	11	12	5.50	3.30
21C-86	.001	7,000	5	8	9	10	8	5.00	3.00
21D-86	.001	3,500	5	8	9	8	5	4.50	2.70
215A-86	.0015	12,500	6	9	10	11	12	6.50	3.90
22A-86	.002	12,500	6	9	12	13	15	7.50	4.50
22C-86	.002	7,000	6	8	9	10	10	6.50	3.90
22D-86	.002	3,500	6	8	8	9	7	5.50	3.30
25B-86	.005	10,000	7	10	13	14	15	10.00	6.00
11C-86	.01	7,000	7	10	13	15	15	10.50	6.30
11D-86	.01	3,500	7	10	13	14	14	10.00	6.00
12D-86	.02	3,500	7	10	14	16	17	10.00	6.00
1E-86	.1	2,000	7	10	14	17	18	11.00	6.60

MICA TRANSMITTING-RECEIVING CAPACITORS



TYPE 4

TYPE 9

For radio frequency bypass, high voltage D. C. blocking, low power tank capacitors, padders, coupling functions, audio and video purposes. Finest quality india ruby mica—select foil and the exclusive C-D stack assembly. Safe, dependable voltage ratings. Hermetically encased in rich brown bakelite, beautifully moulded.

FEATURES OF TYPES 4 and 9

- 1—India Ruby Mica Dielectric—Low power factor; high Q; long life.
- 2—Mica of Stepped Uniform Thickness—Provides high factor of safety.
- 3—Specially-Treated Stack Assembly—Affords higher voltage breakdown.
- 4—Vacuum Dried Stack Treatment—Low loss; high insulation.
- 5—No Magnetic Material Used—Reduces losses at all frequencies.
- 6—Moulded in Bakelite—Strong; minimum leakage; excellent appearance; moisture-proof.
- 7—Short Heavy Terminals—Insures good anchorage; mtg. accuracy.
- 8—Excellent Temperature Coefficient—Practically constant capacity over wide range of temperature.

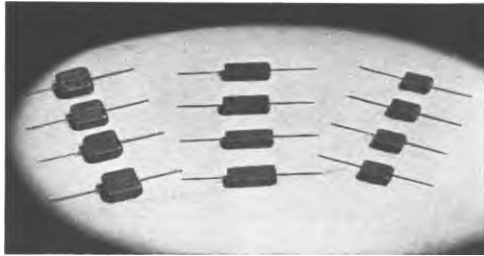
TYPE 4				TYPE 9			
Cat. No.	Cap. Mfd.	List Price	Net Price	Cat. No.	Cap. Mfd.	List Price	Net Price
1000 V.D.C. TEST 600 V.D.C. WORKING				1000 V.D.C. TEST 600 V.D.C. WORKING			
4-14050	.00005	\$0.50	\$0.30	9-14050	.00005	\$0.60	\$0.36
4-13010	.0001	.50	.30	9-13010	.0001	.60	.36
4-13020	.0002	.50	.30	9-13025	.00025	.60	.36
4-13025	.00025	.50	.30	9-13050	.0005	.60	.36
4-13030	.0003	.50	.30	9-12010	.001	.60	.36
4-13040	.0004	.50	.30	9-12020	.002	.65	.39
4-13050	.0005	.50	.30	9-12025	.0025	.75	.45
4-12010	.001	.50	.30	9-12030	.003	.85	.51
4-12015	.0015	.50	.30	9-12040	.004	.85	.51
4-12020	.002	.55	.33	9-12050	.005	.85	.51
4-12025	.0025	.65	.39	9-12060	.006	1.00	.60
4-12030	.003	.70	.42	9-12080	.008	1.20	.72
4-12040	.004	.70	.42	9-11010	.01	1.40	.84
4-12050	.005	.70	.42	9-11015	.015	1.60	.96
4-12060	.006	.85	.51	9-11020	.02	1.85	1.11
4-12070	.007	.95	.57	9-11025	.025	2.30	1.38
4-12080	.008	1.00	.60	9-11030	.03	2.50	1.50
4-11010	.01	1.15	.69	9-11040	.04	3.25	1.95
4-11015	.015	1.35	.87	9-11050	.05	3.85	2.31
4-11020	.02	1.55	.93	9-11060	.06	4.50	2.70
4-11025	.025	1.90	1.14	2500 V.D.C. TEST 1200 V.D.C. WORKING			
4-11030	.03	2.10	1.26	9-24050	.00005	\$0.70	\$0.43
2500 V.D.C. TEST 1200 V.D.C. WORKING				9-23010	.0001	.70	.42
4-24050	.00005	\$0.70	\$0.42	9-23025	.00025	.70	.42
4-23010	.0001	.70	.42	9-23050	.0005	.70	.43
4-23020	.0002	.70	.42	9-22010	.001	.90	.54
4-23025	.00025	.70	.42	9-22020	.002	1.35	.81
4-23030	.0003	.70	.42	9-22025	.0025	1.45	.87
4-23050	.0005	.70	.42	9-22030	.003	1.55	.93
4-22010	.001	.90	.54	9-22040	.004	1.55	.93
4-22015	.0015	1.15	.69	9-22050	.005	1.75	1.05
4-22020	.002	1.35	.81	9-22060	.006	1.75	1.05
4-22025	.0025	1.45	.87	9-22080	.008	2.25	1.35
4-22030	.003	1.55	.93	9-21010	.01	2.80	1.68
4-22040	.004	1.55	.93	9-21015	.015	3.35	2.01
4-22050	.005	1.75	1.05	9-21020	.02	3.95	2.37
4-22060	.006	1.75	1.05	9-21025	.025	4.40	2.64
4-22080	.008	2.25	1.35	9-21030	.03	4.60	2.76
4-21010	.01	2.80	1.68	5000 V.D.C. TEST 2500 V.D.C. WORKING			
5000 V.D.C. TEST 2500 V.D.C. WORKING				9-54050	.00005	.90	.54
4-54050	.00005	\$0.90	\$0.54	9-53010	.0001	.90	.54
4-53010	.0001	.90	.54	9-53025	.00025	1.05	.63
4-53020	.0002	1.05	.63	9-53050	.0005	1.25	.75
4-53025	.00025	1.05	.63	9-52010	.001	1.50	.90
4-53030	.0003	1.10	.66	9-52020	.002	2.25	1.35
4-53050	.0005	1.25	.75	9-52025	.0025	2.50	1.50
4-52010	.001	1.50	.90	9-52030	.003	2.75	1.65
4-52015	.0015	1.95	1.17	9-52040	.004	3.15	1.89
4-52020	.002	2.25	1.35	9-52050	.005	3.40	2.04
4-52025	.0025	2.50	1.50	9-52060	.006	3.50	2.10
4-52030	.003	2.75	1.65	9-52080	.008	3.80	2.28
4-52040	.004	3.15	1.89	9-51010	.01	4.10	2.46
4-52050	.005	3.50	2.10	9-51015	.015	4.50	2.70

Standard tolerance $\pm 10\%$. Also available in closer capacity tolerances and low-loss bakelite, etc., at slightly higher prices.



MICA RECEIVING CAPACITORS

SILVERED MICA CAPACITORS



1R

2R

5R

Types 1R, 2R and 5R "Silver-Mike" Silvered Mica Capacitors are designed for use in electronic circuits where frequency stability must be maintained. They are ideally suited for use in circuits where the LC product must be maintained constant, and particularly adapted for use in tuning IF transformers.

Silvered Mica Capacitors are used with a high degree of success for push-button tuning circuits, high frequency oscillator circuits and low power circuits, and for use in receivers which are subject to severe changes in temperature and humidity, as in aircraft and expeditionary equipment.

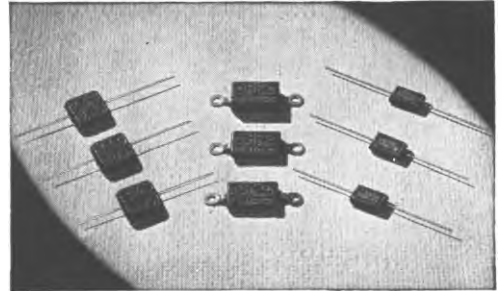
FEATURES OF TYPES 1R, 2R and 5R

- 1—Silver Coating Thoroughly Bonded to Mica—Uniform and low capacity-temperature coefficient (+.002% per degree C.)—excellent retrace characteristics.
- 2—Extra-Heavy Silver Coating—Practically no capacity drift with time.
- 3—Standard Units Moulded in Low-Loss Red Bakelite—Protection against physical damage and change of electrical characteristics—exceptionally high Q (3000 to 5000).
- 4—Tinned Brass Wire Leads—Prevent breakage—easily bent in any direction without affecting characteristics of unit.
- 5—Completely Wax-Impregnated—Assures excellent humidity characteristics.

Capacity Mfd.	1000 V.D.C. TEST 500 V.D.C. WORKING			List Price	Net Price
	TYPE 1R	TYPE 2R	TYPE 3R		
	Cat. No.	Cat. No.	Cat. No.		
.000001	1R-5V1	2R-5V1	5R-5V1	\$0.50	\$0.30
.000005	1R-5V5	2R-5V5	5R-5V5	.50	.30
.00001	1R-5Q1	2R-5Q1	5R-5Q1	.40	.24
.00002	1R-5Q2	2R-5Q2	5R-5Q2	.40	.24
.000025	1R-5Q25	2R-5Q25	5R-5Q25	.40	.24
.00003	1R-5Q3	2R-5Q3	5R-5Q3	.40	.24
.00004	1R-5Q4	2R-5Q4	5R-5Q4	.40	.24
.00005	1R-5Q5	2R-5Q5	5R-5Q5	.40	.24
.00007	1R-5Q7	2R-5Q7	5R-5Q7	.40	.24
.0001	1R-5T1	2R-5T1	5R-5T1	.40	.24
.00015	1R-5T15	2R-5T15	5R-5T15	.50	.30
.0002	1R-5T2	2R-5T2	5R-5T2	.50	.30
.00025	1R-5T25	2R-5T25	5R-5T25	.50	.30
.0003	1R-5T3	2R-5T3	5R-5T3	.75	.45
.0004	1R-5T4	2R-5T4	5R-5T4	.75	.45
.0005	1R-5T5	2R-5T5	5R-5T5	.75	.45
.0007	1R-5T7	2R-5T7		1.00	.60
.0008	1R-5T8	2R-5T8		1.00	.60
.0009	1R-5T9	2R-5T9		1.10	.66
.001	1R-5D1	2R-5D1		1.25	.75
.0015	1R-5D15			1.50	.90
.002	1R-5D2			1.50	.90
.0025	1R-5D25			2.00	1.20
	600V.D.C. Test 300V.D.C. Wkg				
.003	1R-3D3			2.25	1.35
.004	1R-3D4			2.35	1.41
.005	1R-3D5			2.50	1.50

Standard capacity tolerance is $\pm 5\%$; can also be furnished in $\pm 3\%$, $\pm 2\%$ and $\pm 1\%$ at slightly higher prices

MOULDED MIDGET MICA CAPACITORS



1-W

3L

5W

Moulded Bakelite Capacitors, Types 1W, 3L and 5W are suitable for numerous electronic uses and are specially adapted to serve many important functions in low-voltage radio circuits. Types 1W and 3L are rated at 500 volts D.C. working and tested at 1000 volts D.C. on capacities up to .003 mfd. and rated at 300 volts D.C. working—600 volts test on higher capacities. They are individually tested for accuracy of capacity and voltage breakdown. The same precise engineering standards, quality materials and careful workmanship employed in manufacturing the large C-D mica capacitors are used in making these tiny moulded Bakelite units. Their small size and convenient terminals make them very handy to use for point-to-point wiring without other mounting means.

FEATURES OF TYPES 1W, 3L and 5W

- 1—India Ruby Mica Dielectric—High Q—Long Life.
- 2—Rigidly Tested Mica—Uniform product—High factor of safety.
- 3—Special Wax-Treated Stack—Affords higher voltage breakdown.
- 4—No Magnetic Material Used—No wave form distortion—reduces losses.
- 5—Standard Units Moulded in Brown Bakelite—Strong and Neat.
- 6—Special Units Moulded in Low-Loss Bakelite—Maximum Resistivity.
- 7—Positive Terminal Connections—Insure good anchorage—low contact resistance.
- 8—Tinned Brass Wire Leads (Types 1W and 5W)—Prevent breakage.
- 9—Standard R.M.A. Color Coding—Quickly indicates capacity.

Capacity Mfd.	1000 V.D.C. TEST—500 V.D.C. WORK.			List Price	Net Price
	TYPE 1W	TYPE 3L	TYPE 5W		
	Cat. No.	Cat. No.	Cat. No.		
.000005			5W-5V5	\$0.20	\$0.12
.00001			5W-5Q1	.20	.12
.00002			5W-5Q2	.20	.12
.000025			5W-5Q25	.20	.12
.00003			5W-5Q3	.20	.12
.00004			5W-5Q4	.15	.09
.00005			5W-5Q5	.15	.09
.00007			5W-5Q7	.15	.09
.0001		3L-5T1	5W-5T1	.15	.09
.00015		3L-5T15	5W-5T15	.15	.09
.0002		3L-5T2	5W-5T2	.15	.09
.00025		3L-5T25	5W-5T25	.20	.12
.0003		3L-5T3	5W-5T3	.20	.12
.0004		3L-5T4	5W-5T4	.20	.12
.0005		3L-5T5	5W-5T5	.20	.12
.0006	1W-5T6	3L-5T6		.20	.12
.0007	1W-5T7	3L-5T7		.20	.12
.0008	1W-5T8	3L-5T8		.20	.12
.0009	1W-5T9	3L-5T9		.20	.12
.001	1W-5D1	3L-5D1		.25	.15
.0015	1W-5D15	3L-5D15		.25	.15
.002	1W-5D2	3L-5D2		.30	.18
.0025	1W-5D25	3L-5D25		.35	.21
.003	1W-5D3	3L-5D3		.40	.24
	600 V.D.C. TEST 300 V.D.C. WORKING				
.004	1W-5D4	3L-5D4		.45	.27
.005	1W-5D5	3L-5D5		.50	.30
.006	1W-5D6	3L-5D6		.60	.36
.007	1W-5D7	3L-5D7		.65	.39
.008	1W-5D8	3L-5D8		.65	.39
.009	1W-5D9	3L-5D9		.70	.42
.01	1W-5S1	3L-5S1		.75	.45

Standard capacity tolerance is $\pm 20\%$. Also available in closer capacity tolerances and low-loss bakelite at slightly higher prices.

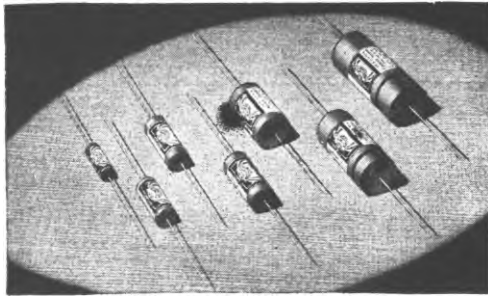
CORNELL



DUBILIER

TUBULAR PAPER CAPACITORS

WAX IMPREGNATED TUBULARS



TYPE DT—"DWARF TIGERS"

C. D. Famous "DWARF TIGER" Tubulars are non-inductively wound, specially sealed and impregnated paper tubular capacitors. They are small, have a high safety factor, are uniform in electrical properties and have well-soldered rigidly anchored wire leads. A specially-treated cardboard tube keeps out moisture. High melting point wax ends add strength and give extra protection to the unit. C. D. has produced many hundreds of millions of these tubulars, more than any other Company in the world! Use them for their Consistently Dependable service!

Radio receivers employ from 5 to 15 or more paper tubular capacitors, the most usual function being to bypass radio frequency currents. If these units are improperly constructed endless trouble ensues. Type DT is a real quality capacitor at the lowest price ever made available.

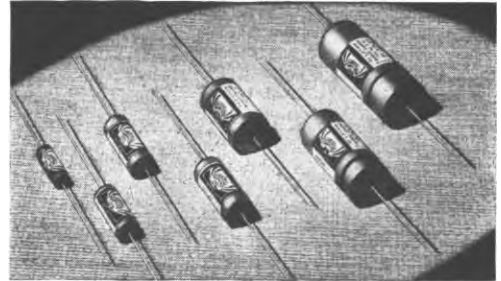
FEATURES OF TYPE DT

- 1—Halowax Impregnated—Decreased physical size.
- 2—Hi-Purity Aluminum Foil—Lower R.F. resistance; light weight.
- 3—Hi-Purity Multi-Laminated Kraft Tissue—Higher voltage breakdown.
- 4—Vacuum Dried and Impregnated—Lower equivalent series resistance.
- 5—Oil-Cooled—Higher voltage breakdown.
- 6—Rigidly Tested—Uniform product.
- 7—Self-Supporting Leads—No contact resistance; added strength.
- 8—Special Wax Impregnated Tube—Added protection against moisture.
- 9—Small Size, Non-Inductive—"Short-path" R.F. bypass.
- 10—Special Wax-Potted Ends—Better humidity and temperature seal.
- 11—Conservative D.C. Rating—Triple-testing assures dependable service.

Cat. No.	Capacity Mfd.	Size Diameter x Length	List Price	Net Price
400 VOLTS D.C.				
DT-4S1	.01	3/8" x 1 1/4"	\$.015	\$.09
DT-4S15	.015	3/8" x 1 1/4"	.15	.09
DT-4S2	.02	3/8" x 1 3/8"	.15	.09
DT-4S25	.025	3/8" x 1 3/8"	.15	.09
DT-4S3	.03	3/8" x 1 3/8"	.15	.09
DT-4S4	.04	3/8" x 1 3/8"	.15	.09
DT-4S5	.05	3/8" x 1 3/8"	.15	.09
DT-4S6	.06	3/8" x 1 3/8"	.20	.12
DT-4P1	.1	3/8" x 1 3/8"	.20	.12
DT-4P2	.2	3/8" x 2"	.25	.15
DT-4P25	.25	3/8" x 2"	.25	.15
DT-4P5	.5	3/8" x 2 3/8"	.35	.21
DT-4W1	1.	1" x 2 3/8"	.50	.30
660 VOLTS D.C.				
DT-6T1	.0001	3/8" x 1 1/4"	.15	.09
DT-6T25	.00025	3/8" x 1 1/4"	.15	.09
DT-6T5	.0005	3/8" x 1 1/4"	.15	.09
DT-6D1	.001	3/8" x 1 1/4"	.15	.09
DT-6D2	.002	3/8" x 1 1/4"	.15	.09
DT-6D3	.003	3/8" x 1 1/4"	.15	.09
DT-6D4	.004	3/8" x 1 1/4"	.15	.09
DT-6D5	.005	3/8" x 1 1/4"	.15	.09
DT-6D6	.006	3/8" x 1 1/4"	.15	.09
DT-6S1	.01	3/8" x 1 3/8"	.15	.09
DT-6S15	.015	3/8" x 1 3/8"	.15	.09
DT-6S2	.02	3/8" x 1 3/8"	.15	.09
DT-6S25	.025	3/8" x 1 3/8"	.20	.12
DT-6S3	.03	3/8" x 1 3/8"	.20	.12
DT-6S4	.04	3/8" x 1 3/8"	.20	.12
DT-6S5	.05	3/8" x 1 3/8"	.20	.12
DT-6S6	.06	3/8" x 1 3/8"	.25	.15
DT-6P1	.1	3/8" x 1 3/8"	.25	.15
DT-6P2	.2	3/8" x 2"	.35	.21
DT-6P25	.25	3/8" x 2"	.35	.21
DT-6P3	.3	3/8" x 2 1/8"	.45	.27
DT-6P5	.5	1" x 2 1/8"	.50	.30

NOTE: See Type MD (next column) for tubular units rated at 800, 1200 and 1600 Volts D.C.

DYKANOL IMPREGNATED TUBULARS



TYPE MD—"BLUE TIGERS"

C-D Type MD "BLUE TIGER" Tubular Paper Capacitors are designed to meet the more rigid requirements of improved modern radio receivers and electronic devices. They provide greater permanency of electrical characteristics such as higher resistivity, lower power-factor and more stable capacity over a long period of time. They are non-inductively wound, specially sealed with a wax outer coating and impregnated with Dykanol "D", and are provided with well-soldered and rigidly anchored, bare, tinned wire leads. A specially treated dehydrated cardboard tube keeps out moisture. A high melting-point compound is used to seal the ends and adds strength and gives extra protection to the unit. These capacitors have found a wide acceptance, with millions of them giving satisfactory service under the most exacting conditions.

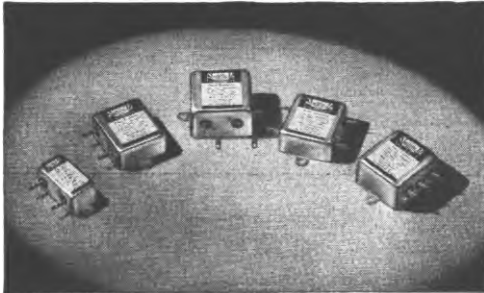
FEATURES OF TYPE MD

- 1—Dykanol "D" Impregnated—Improved power-factor; higher and more stable insulation resistance; more constant capacity characteristics; longer life under most severe conditions of humidity and temperature.
- 2—Specially Wax-Dipped—Affords greater protection against humidity and temperature changes.
- 3—Hi-Purity Aluminum Foil—Lower R.F. resistance; decrease weight.
- 4—Hi-Purity Multi-Laminated Kraft Tissue—Higher voltage breakdown; minimum leakage.
- 5—Vacuum-Dried and Impregnated—Lower losses; longer life.
- 6—Rigidly Tested—Uniform product.
- 7—Self-Supporting Leads—Minimum contact resistance; added strength.
- 8—Special Wax-Impregnated Tube—Added protection against moisture.
- 9—Small Size—Non-Inductive—"Short-Path" R.F. by-pass.
- 10—Special-Compound-Potted Ends—Better humidity and high temperature seal.
- 11—Conservative D.C. Rating—Triple-Testing assures dependable service.

Cat. No.	Capacity Mfd.	Size Diameter x Length	List Price	Net Price
800 VOLTS D.C.				
MD-8T1	.0001	3/8" x 1 1/4"	\$.20	\$.12
MD-8T25	.00025	3/8" x 1 1/4"	.20	.12
MD-8T5	.0005	3/8" x 1 1/4"	.20	.12
MD-8D1	.001	3/8" x 1 1/4"	.20	.12
MD-8D2	.002	3/8" x 1 1/4"	.20	.12
MD-8D25	.0025	3/8" x 1 1/4"	.20	.12
MD-8D3	.003	3/8" x 1 1/4"	.20	.12
MD-8D4	.004	3/8" x 1 1/4"	.20	.12
MD-8D5	.005	3/8" x 1 1/4"	.20	.12
MD-8D6	.006	3/8" x 1 1/4"	.20	.12
MD-8D7	.007	3/8" x 1 1/4"	.20	.12
MD-8D8	.008	3/8" x 1 1/4"	.20	.12
MD-8S1	.01	3/8" x 1 3/8"	.20	.12
MD-8S15	.015	3/8" x 1 3/8"	.20	.12
MD-8S2	.02	3/8" x 1 3/8"	.20	.12
MD-8S25	.025	3/8" x 1 3/8"	.20	.12
MD-8S4	.03	3/8" x 1 3/8"	.25	.15
MD-8S4	.04	3/8" x 1 3/8"	.25	.15
MD-8S5	.05	3/8" x 1 3/8"	.25	.15
MD-8S6	.06	3/8" x 1 3/8"	.25	.15
MD-8S8	.08	3/8" x 2"	.30	.18
MD-8P1	.1	3/8" x 2"	.35	.21
MD-8P15	.15	3/8" x 2 3/8"	.50	.30
1200 V.D.C.				
MD-12D1	.001	3/8" x 1 1/4"	.25	.15
MD-12D2	.002	3/8" x 1 1/4"	.25	.15
MD-12D3	.003	3/8" x 1 1/4"	.25	.15
MD-12D4	.004	3/8" x 1 1/4"	.25	.15
MD-12D5	.005	3/8" x 1 1/4"	.25	.15
MD-12D6	.006	3/8" x 1 1/4"	.25	.15
MD-12D7	.007	3/8" x 1 1/4"	.25	.15
MD-12D8	.008	3/8" x 1 1/4"	.25	.15
MD-12S1	.01	3/8" x 1 3/8"	.25	.15
MD-12S15	.015	3/8" x 1 3/8"	.25	.15
MD-12S2	.02	3/8" x 1 3/8"	.25	.15
MD-12S3	.03	3/8" x 1 3/8"	.30	.18
MD-12S4	.04	3/8" x 1 3/8"	.30	.18
MD-12S5	.05	3/8" x 1 3/8"	.35	.21
MD-12S6	.06	3/8" x 1 3/8"	.40	.24
MD-12S8	.08	3/8" x 2"	.45	.27
MD-12P1	.1	3/8" x 2"	.50	.30
1600 VOLTS D.C.				
MD-16D1	.001	3/8" x 1 1/4"	.35	.21
MD-16D2	.002	3/8" x 1 1/4"	.35	.21
MD-16D25	.0025	3/8" x 1 1/4"	.35	.21
MD-16D3	.003	3/8" x 1 1/4"	.35	.21
MD-16D4	.004	3/8" x 1 1/4"	.35	.21
MD-16D5	.005	3/8" x 1 1/4"	.35	.21
MD-16D6	.006	3/8" x 1 1/4"	.35	.21
MD-16D7	.007	3/8" x 1 1/4"	.35	.21
MD-16D8	.008	3/8" x 1 1/4"	.35	.21
MD-16S1	.01	3/8" x 1 3/8"	.35	.21
MD-16S15	.015	3/8" x 1 3/8"	.35	.21
MD-16S2	.02	3/8" x 1 3/8"	.35	.21
MD-16S25	.025	3/8" x 1 3/8"	.35	.21
MD-16S3	.03	3/8" x 1 3/8"	.40	.24
MD-16S4	.04	3/8" x 1 3/8"	.40	.24
MD-16S5	.05	3/8" x 1 3/8"	.45	.27



METAL CASED PAPER CAPACITORS



TYPES DA, DB, DC and DD

C-D "Bathtub" Metal Shell Type DA to DD capacitors are non-inductively wound, well protected against climatic conditions and available in a large variety of ratings for radio frequency bypass, audio frequency coupling and bypass functions. Lug terminals are amply insulated. Integral with casing, the mounting feet allow ease of assembly. In the single and dual section capacitor units, the terminals are insulated from the container. The duals have three terminals, the common lug being on the left. In the triple and quadruple section capacitors, the common terminal connection is grounded to the metal case.

Cat. No.	Capacity Mfd.	Size Length x Width x Thick.	List Price	Net Price
400 VOLTS D.C.				
DA-4011	.1	1 1/8" x 1" x 3/8"	0.65	\$0.39
DA-4025	.25	1 1/8" x 1" x 3/8"	.75	.45
DA-4050	.5	1 1/8" x 1" x 3/8"	.95	.57
DA-4100	1	2" x 1 1/4" x 1 1/8"	1.25	.75
DA-4200	2	2" x 2" x 1 1/8"	1.55	.93
600 VOLTS D.C.				
DA-6011	.1	1 1/8" x 1" x 3/8"	.75	.45
DA-6025	.25	1 1/8" x 1 1/4" x 3/8"	.90	.54
DA-6050	.5	2" x 1 1/4" x 3/8"	1.20	.72
DA-6100	1	2" x 2" x 1 1/8"	1.50	.90
TYPE DB-DC-DD 400 VOLTS D.C.				
DB-4010	.1-1	1 1/8" x 1" x 3/8"	.80	.48
DB-4025	.25-25	2" x 1 1/4" x 3/8"	1.00	.60
DB-4050	.5-5	2" x 1 1/4" x 3/8"	1.25	.75
DC-4010	.1-1-1-1	1 1/8" x 1" x 3/8"	1.05	.63
DD-4010	.1-1-1-1-1	2" x 1 1/4" x 3/8"	1.40	.84

UNCASED PAPER CAPACITORS

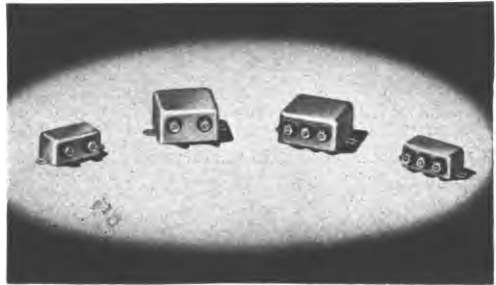


TYPE RM

Type RM Uncased Filter Capacitors have been made available to repair paper dielectric "filter blocks" which were used in the early models of A.C. operated radio sets. Also useful in the elimination of electrical interference caused by push-buttons, bells, buzzers, and the like. Type RM units serve practically every replacement need. Special capacitor "blocks" can be made up and potted into suitable containers by Servicemen to fulfill any requirements.—Servicemen, especially those confronted with high voltage power pack problems, with power transformers having poor voltage regulation and contending with circuits wherein exceptionally high peak voltage surges develop welcome these dependable filter capacitors. Long wire leads facilitate ease of hook-up.

Cat. No.	Capacity Mfd.	Size Length x Width x Thick.	List Price	Net Price
400 VOLTS D.C.				
RM-4050	.5	2" x 1" x 3/8"	\$0.50	\$0.30
RM-4100	1	2" x 1 1/4" x 3/8"	.75	.45
RM-4200	2	2" x 1 1/2" x 1 1/8"	1.15	.69
RM-4400	4	3 3/8" x 1 1/2" x 1 1/8"	2.00	1.20
600 VOLTS D.C.				
RM-6010	.1	2" x 1" x 3/8"	.40	.24
RM-6025	.25	2" x 1" x 3/8"	.50	.30
RM-6050	.5	2" x 1 1/4" x 3/8"	.60	.36
RM-6100	1	2" x 1 1/4" x 3/8"	.90	.54
RM-6200	2	3 3/8" x 1 1/2" x 1 1/8"	1.35	.81
RM-6400	4	4 1/8" x 1 1/2" x 1 1/8"	2.70	1.62
1000 VOLTS D.C.				
RM-10100	1	4 1/8" x 1 1/2" x 1 1/8"	1.50	.90
RM-10200	2	4 1/8" x 1 1/2" x 1 1/8"	2.50	1.50

DYKANOL BYPASS CAPACITORS



TYPE DY

Type DY Dykanol Bypass Capacitors are non-inductively wound and fill the need for dependable capacitors of fractional capacities that will operate efficiently in R.F. and A.F. bypass, audio frequency coupling and A.C. circuits under all humidity conditions and at temperatures up to approximately 80° C. (180° F.). They are built to stand an immersion test in hot salt water and have been specially designed to fill the severe requirements of aircraft, submarine, marine and tropical applications for maximum capacity and voltage in minimum space, where quality and reliability are of paramount importance. They are impregnated and filled with Dykanol "A" and sealed in non-corrosive cases with leakproof terminals.

FEATURES OF TYPE DY

- 1-Dykanol "A" (Chlorinated Diphenyl) Impregnated and Filled—Non-inflammable, fireproof, long life, small size, lower power-factor.
- 2-High Purity Foil—Lower R.F. resistance, light weight.
- 3-High-Grade Multi-Laminated Kraft Tissue—Higher voltage breakdown, maximum safety, high insulation resistance.
- 4-Dried and Impregnated Under Vacuum—Lower equivalent series resistance, particularly at higher temperatures; 5,000 megohms per microfarad insulation resistance; longer life.
- 5-Hermetically Metal-Sealed—Not affected by moisture, time or temperature up to 85° C. (185° F.).
- 6-Special Pressure-Sealed Terminals—Leak-proof joints, Bakelite insulated.
- 7-Specially-Treated Drawn Metal Containers—Non-corrosive (non-ferrous), strong.
- 8-Mounting Feet Integral with Case—Convenient, rigid.
- 9-Safe D.C. Rating—Triple testing assures dependable service; terminal-to-case tested at over twice voltage rating.
- 10-Conservative Voltage Ratings—Can be safely operated continuously at 10% above rated voltage.

Cat. No.	Capacity Mfd.	Size Length x Width x Thick.	List Price	Net Price
600 V.D.C. WORKING				
DY-6005	.05	1 1/8" x 1" x 3/8"	\$1.70	\$1.05
DY-6010	.1	1 1/8" x 1" x 3/8"	1.75	1.05
DY-6025	.25	1 1/8" x 1" x 3/8"	1.80	1.08
DY-6050	.5	1 1/8" x 1" x 3/8"	1.95	1.17
DY-6100	1	2" x 1 1/4" x 3/8"	2.25	1.35
DY-6200	2	2" x 2" x 1 1/8"	3.00	1.80
DY-60055	.05-.05	1 1/8" x 1" x 3/8"	2.15	1.29
DY-6011	1-1	1 1/8" x 1" x 3/8"	2.20	1.32
DY-6022	.25-.25	1 1/8" x 1 1/4" x 3/8"	2.25	1.35
DY-6055	.5-.5	2" x 1 1/4" x 3/8"	2.55	1.53
DY-6110	1-1	2" x 2" x 1 1/8"	3.15	1.89
DY-6111	1-1-1	1 1/8" x 1" x 3/8"	2.50	1.50
DY-6222	.25-.25-.25	2" x 1 1/4" x 3/8"	2.80	1.68
DY-6555	.5-.5-.5	2" x 2" x 1 1/8"	3.40	2.04
1000 V.D.C. WORKING				
DY-10005	.05	1 1/8" x 1" x 3/8"	1.75	1.05
DY-10010	.1	1 1/8" x 1" x 3/8"	1.85	1.11
DY-10025	.25	1 1/8" x 1" x 3/8"	1.90	1.14
DY-10050	.5	2" x 1 1/4" x 3/8"	2.05	1.23
DY-10100	1	2" x 2" x 1 1/8"	2.75	1.65
DY-100055	.05-.05	1 1/8" x 1" x 3/8"	2.15	1.29
DY-10011	1-1	1 1/8" x 1" x 3/8"	2.30	1.38
DY-10022	.25-.25	2" x 1 1/4" x 3/8"	2.50	1.50
DY-10055	.5-5	2" x 2" x 1 1/8"	3.25	1.95
DY-10111	1-1-1	1 1/8" x 1 1/4" x 3/8"	2.75	1.65
DY-10222	.25-.25-.25	2" x 2" x 1 1/8"	3.50	2.10

NOTES—Standard Capacity Tolerance is plus 20% minus 10%. Closer tolerances can also be supplied on special order at slightly higher prices.

Type No. Rating Data—Rubber stamped on cases in small quantities and metal stamped on cases in larger quantities for industrial users.

Standard Terminal Arrangement—Standard construction employs well-insulated, hermetically sealed, screw-lug terminals on side of container. Dual units are furnished with three terminals, the common terminal being at the left. Triple units are furnished with three terminals with case common (grounded).

"T" Terminals on Top—Most units can be furnished in this construction on special order. In ordering, add "T" to Cat. No. (Example: DYT-6055.)

"B" Terminals on Bottom—Most units can be furnished in this construction on special order. In ordering, add "B" to Cat. No. (Example: DYB-6010.)

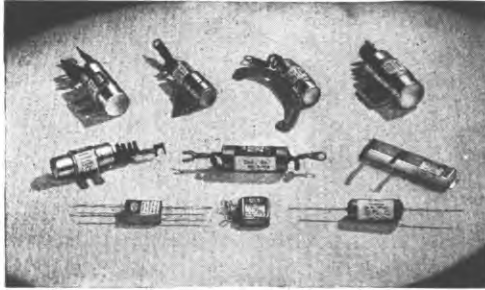
"E" Terminals at End—Can be furnished on special order. In ordering, add "E" to Cat. No. (Example: DYE-10005.)

"R" Riveted Terminals—If riveted instead of screw terminals are required, order by adding "R" to Cat. No. (Example: DYR-6011.)



AUTO GENERATOR AND VIBRATOR CAPACITORS

FC-2P5V FC-2P5A



FC-2P5V
FC-2P5B
VC

ICH-2W1A
VL
DC

Center—HC
Lower—VUL

C-D AUTO RADIO FILTER UNITS

Thorough impregnation and sealing keep these little capacitors impervious to weather conditions. All leads are firmly anchored, all seams of metal units carefully soldered. Substantially made, these will outlast the associated equipment for which they are intended.

During the past 29 years, Cornell-Dubilier has produced and sold over a billion capacitors of all sizes, shapes and voltage ratings from 10 V.D.C. to 1,000,000 V.D.C. Frequently an average production of more than 500,000 units a day has been required to meet the demands of the trade. Such a remarkable record is gratifying proof of the international acceptance of C-D capacitors.

Automobile radio during the last six years, has taken tremendous strides. Reception of music and speech with an automobile radio receiver, operating from the car's storage battery is clear, quiet, and of excellent quality, simulating a home radio receiver's performance. To make this possible, the above photograph illustrates some of the various types of capacitors which have been brought out to meet the problems of vibrator "B" supply filters, generator commutator and switch noise suppression for automobiles.

The mechanical design of these capacitors insures against damage by the high temperatures and excessive vibration existing under the hood of an auto. Special units such as these are designed for certain particular installations. Thus, for instance, the Ford generator condensers have special mounting brackets. The vibrator capacitors are oil-treated to withstand high peak and surge voltages.

PAPER DIELECTRIC FILTER CAPACITORS



PE-CH PE-A PE-B

Paper Replacement Capacitors that simulate electrolytics in appearance; these types fulfill a real service need. Their actual capacity is from $\frac{1}{2}$ to $\frac{1}{3}$ of the usual value employed when using electrolytics. They afford a high voltage breakdown which an electrolytic does not offer. There is no polarity to observe when using these capacitors. In Types PE-B and PE-CH, the dual section units have separate leads, a set of two leads of one color identify the terminals for each capacity. In Type PE-A triple section units, the common terminal stud is insulated, with provision made to ground same by means of a small wire lead soldered to the grounding lug on the metal container.

FEATURES OF TYPES PE-CH, PE-A and PE-B

- 1—Halowax Impregnated—Decreased physical size.
- 2—Hi-Purity Aluminum Foil—Lower R.F. resistance; light weight.
- 3—Hi-Purity Multi-Laminated Kraft Tissue—Higher voltage breakdown.
- 4—Oil-Cooled—Higher voltage breakdown.
- 5—Vacuum Dried & Impregnated—Lower equivalent series resistance.
- 6—Rigidly Tested—Uniform product.
- 7—Secure Leads and Terminals—Positive connections under all conditions.
- 8—Containers, Cardboard and Aluminum—Like electrolytics in appearance.
- 9—Conservative D.C. Rating—Triple testing assures dependable service.
- 10—Special, Complete Potting—Added protection against humidity.

Cat. No.	"Replacement" for Electrolytic Capacity Mfd.	Actual Mfd. Capacity	Size Lgth. x Wdth. x Thck.	List Price	Net Price
TYPE PE-CH					
1000 V.D.C. Test, 600 V.D.C. Peak, 450 V.D.C. Working					
PE-CH-4004	8	2	4 3/8" x 1 3/8" x 1 1/8"	\$0.90	\$0.54
PE-CH-4008	8	3 1/2	4 3/8" x 1 3/8" x 1 1/8"	1.15	.69
PE-CH-4808	8-8	2 3/4 x 2 1/2	4 3/8" x 1 3/8" x 1 1/8"	1.90	1.14
TYPE PE-CH					
1200 V.D.C. Test, 800 V.D.C. Peak, 600 V.D.C. Working					
PE-CH-6004	4	2	4 3/8" x 1 3/8" x 1 1/8"	1.20	.72
PE-CH-6008	8	3	4 3/8" x 1 3/8" x 1 1/8"	1.60	.96
PE-CH-6808	8-8	2 3/4 - 2 3/4	4 3/8" x 2" x 1 1/2"	2.65	1.59
TYPE PE-B					
1200 V.D.C. Test, 800 V.D.C. Peak, 600 V.D.C. Working					
PE-B-6004	4	1 3/4	4 3/8" x 1 3/8"	1.35	.81
PE-B-6008	8	2 3/4	4 3/8" x 1 3/8"	1.75	1.05
PE-B-6808	8-8	1 3/4 - 1 3/4	4 3/8" x 1 3/8"	2.80	1.68
TYPE PE-A					
100 V.D.C. Test, 800 V.D.C. Peak, 600 V.D.C. Working					
PE-A-6444	4-4-4	1 1/2 - 1 1/2 - 1 1/2	4 3/8" x 2 1/2"	3.50	2.10
PE-A-6888	8-8-8	2 3/4 - 2 3/4 - 2 3/4	4 3/8" x 3"	4.90	2.94
PE-A-6918	9-9-18	3-3-6	4 3/8" x 3"	6.50	3.90

Cat. No.	Capacity Mfd.	Size Length x Width x Thck.	List Price	Net Price
GENERATOR UNITS				
IC-2P5B	.5	1 1/8" x 1 1/8" x 1/8"	\$0.50	\$0.30
ICH-2P5A	.5	1 1/8" x 1 1/8" x 1/8"	.50	.30
FC-2P5A	.5	1 1/8" x 1 1/8" x 1/8"	.50	.30
FC-2P5V	.5	1 1/8" x 1 1/8" x 1/8"	.50	.30
IC-2P55	.5-.5	2 1/8" x 1 1/8" x 1/8"	.75	.45
ICH-2W1A	1	2 3/8" x 1 1/8" x 1/8"	.70	.42

Cat. No.	Capacity Mfd.	Size Length x Width x Thck.	List Price	Net Price
AMMETER UNIT				
HC-870E	.5	2" x 3 3/4" x 1/8"	.45	.27

Cat. No.	Capacity Mfd.	Size Length x Width x Thck.	List Price	Net Price
VIBRATOR UNITS				
Metal "postage stamp" capacitors, with two insulated leads oil filled, 2000 V. Peak				
VUL-D7	.007	1" x 1 1/8" x 3/8"	\$0.45	\$0.27
VUL-D8	.008	1" x 1 1/8" x 3/8"	.45	.27
VUL-S1	.01	1" x 1 1/8" x 3/8"	.45	.27
VUL-S2	.02	1" x 1 1/8" x 3/8"	.45	.27
VU-S3*	.03	1" x 1 1/8" x 3/8"	.45	.27

*This unit has one insulated lead.

Cat. No.	Capacity Mfd.	Size Length x Width x Thck.	List Price	Net Price
Metal shell units for old style vibrator "B" supply units				
VL-S1	.01	3 1/2" x 1 1/2" x 3/8"	.60	.36
VL-P5	1500V .5 200V	3 1/2" x 3 1/2" x 3/8"	.65	.39

Cat. No.	Capacity Mfd.	Size Length x Width x Thck.	List Price	Net Price
Special dual 0008 rectangular unit with four leads				
VC-1160	2x.0008	1 1/8" x 3/4" x 5/8"	\$0.50	\$0.30

Cat. No.	Capacity Mfd.	Size Length x Width x Thck.	List Price	Net Price
Oil-impregnated and processed paper tubular capacitors 2000 V. Peak				
DT-16T8	.0008	1 1/2" x 1 1/2" x 1/8"	\$0.35	\$0.21
DT-16D25	.0025	1 1/2" x 1 1/2" x 1/8"	.35	.21
DT-16D5	.005	1 1/2" x 1 1/2" x 1/8"	.35	.21
DT-16D7	.007	1 1/2" x 1 1/2" x 1/8"	.35	.21
DT-16D75	.0075	1 1/2" x 1 1/2" x 1/8"	.35	.21
DT-16S1	.01	1 1/2" x 1 1/2" x 1/8"	.35	.21
DT-16S2	.02	1 1/2" x 1 1/2" x 1/8"	.35	.21
DT-16S3	.03	2" x 1 1/2" x 1/8"	.35	.21
DT-16S4	.04	2" x 1 1/2" x 1/8"	.40	.24
DT-16S5	.05	2" x 1 1/2" x 1/8"	.45	.27
DT-16P1	.1	2 1/2" x 1 1/2" x 1/8"	.60	.36

NOTE: We can supply any Cornell-Dubilier electrolytic, mica, paper or Dykanol condenser not listed in these pages. Send for complete Cornell-Dubilier catalogs as follows:

Catalog No. 160T—Radio Transmitter Capacitors, for engineers, radio amateurs, and experimenters. Gives complete description of mica and Dykanol capacitors for all transmitter requirements. Also contains useful data, charts and information on capacitors.

Catalog No. 167A—Capacitor Test Instruments, for the laboratory and service shop. Complete data on the Cornell-Dubilier Capacitor Analyzer, Capacitor Bridge and Capacitor Decades.

Catalog No. 166A—Quietone Radio Interference Filters, for eliminating troublesome radio noises caused by electrical appliances, etc. A complete description of all types with information on their use in connection with various types of electrical equipment. A new field of profits for the radio service man.

Catalog No. 162—Replacement Motor Starting Capacitors, for electric refrigerators, oil burners and other motor-driven equipment. Both Dykanol and Electrolytic replacement types fully listed.

CORNELL



DUBILIER

A. C. MOTOR STARTING CAPACITORS

DRY ELECTROLYTIC CAPACITORS



CLB JPW LMW JDS ETN

TYPES CLB, JPW, LMW, JDS and ETN

C-D Dry Electrolytic A.C. Capacitors are designed for motor starting in refrigerators, oil burners and other A.C. equipment. They are rated for operation on 110 volts (to 250 volts) 60 cycle A.C. and for intermittent use only—20, 3-second starts per hour. Replacement units for standard makes of refrigerator and oil burner motors are given in the list below. A complete list of C-D electrolytic capacitors for A.C. motor starting will be furnished upon request. Ask for C-D Catalog No. 162.

FEATURES OF TYPES ETN, CLB, JPW, JDS and LMW

- 1—Hi-Formation Process—Affords higher voltage breakdown.
- 2—Hi-Pressure Centrifuge—Better impregnation; lower power factor.
- 3—Hi-Purity Aluminum Foil—Better direct current leakage recovery.
- 4—Special C-D Super-Cellulose Separator—Extra long life.
- 5—Rigid Chemical Purity Control—Uniform performance.
- 6—Double Ageing—Stable characteristics.
- 7—Complete Wax Potting—Better weather-proofing.
- 8—All Aluminum Can and Accessories—Uniform results in all humidities.
- 9—Anchored Leads—Eliminates open and short-circuits.
- 10—Universal Mounting—Units mount in any position.

Cat. No.	Capacity Mfd.	Size Length x Width x Thick.	List Price	Net Price
ETN-80	75-84	3 1/2" x 1 3/4"	1.30	\$0.91
ETN-100	97-107	3 1/2" x 1 3/4"	1.40	.98
ETN-115	108-120	3 1/2" x 1 3/4"	1.40	.98
ETN-130	124-128	3 1/2" x 1 3/4"	1.50	1.05
ETN-155	145-162	4 1/2" x 1 3/4"	1.80	1.26
ETN-155-1	145-162	3 1/2" x 1 1/2"	2.80	1.96
ETN-285	270-300	4 1/2" x 1 1/2"	1.50	3.15
ETN-285-1	270-300	3 1/2" x 2 1/4"	3.50	2.45
ETN-400	378-420	4 1/2" x 2"	5.00	3.50
CLB-80	80	4 1/8" x 2"	2.35	1.65
CLB-80-1	80	4 1/8" x 2 1/2"	2.35	1.65
CLB-100	100	4 1/8" x 2"	2.40	1.68
CLB-100-1	100	4 1/8" x 2 1/2"	2.40	1.68
CLB-115-2	115	4 1/8" x 2 1/2"	2.50	1.75
CLB-115-7	115	4 1/8" x 2"	2.50	1.75
CLB-135	135	4 1/8" x 3"	2.70	1.89
CLB-150	150	4 1/8" x 3 1/2"	2.80	1.96
JPW-80	80	3 1/2" x 3 1/2" x 2"	2.10	1.47
JPW-100	100	3 1/2" x 3 1/2" x 2"	2.20	1.54
JPW-115	115	3 1/2" x 3 1/2" x 2"	2.30	1.61
JPW-135	135	3 1/2" x 3 1/2" x 2 1/2"	2.50	1.75
JPW-150	150	3 1/2" x 3 1/2" x 2 1/2"	2.80	1.96
JDS-80	80	3 1/2" x 3 1/2" x 2"	2.10	1.47
JDS-100	100	3 1/2" x 3 1/2" x 2"	2.20	1.54
JDS-115	115	3 1/2" x 3 1/2" x 2"	2.30	1.61
LMW-80	80	4 1/8" x 4 1/8" x 1 1/4"	2.10	1.47
LMW-100	100	4 1/8" x 4 1/8" x 1 1/4"	2.20	1.54
LMW-115	115	4 1/8" x 4 1/8" x 1 1/4"	2.30	1.61
LMW-135	135	4 1/8" x 4 1/8" x 1 1/2"	2.50	1.75
LMW-150	150	4 1/8" x 4 1/8" x 2"	2.80	1.96
LMW-200	200	4 1/8" x 4 1/8" x 2 1/2"	3.95	2.77

DYKANOL CAPACITORS



KG KH

TYPES KG and KH

Dykanol impregnated and filled, in hermetically sealed non-corrosive containers, the KG series of capacitors are designed for A.C., motor starting and running applications. They are also ideally suited for use in neon tube circuits, sign flashers, eliminators, X-Ray apparatus, and as high voltage testing capacitors.

Due to the exceptional care employed in assembling the KG units, the danger of oil leakage—or terminal flash-over to ground is minimized. These units can be safely used under any conditions of temperature and humidity for continuous duty operation.

The high dielectric strength of Dykanol "A," used as the impregnating medium in Type KG capacitors, offers an additional safety factor against the severe stresses encountered in this type of work. Enormous savings of space and material have been effected by the use of Dykanol "A," whose dielectric constant is considerably higher than other impregnants available today.

The Type KH motor capacitors are impregnated and filled with Dykanol "B." Hermetically sealed in tin plated steel containers, these capacitors are not affected by climatic conditions.

The great care used in selecting the materials employed and careful supervision of every detail of manufacture results in the production of condensers of the highest quality having such features as ability to withstand high temperature and unusual voltage and frequency stresses without damage.

FEATURES OF TYPE KG

- 1—Dykanol "A" Chlorinated Diphenyl Impregnated and Filled—Non-inflammable—fire-proof—long life—small size—lower power-factor—non-oxidizable.
- 2—Hi-Purity Aluminum Foil—Lower R.F. resistance—light weight.
- 3—Hi-Grade Multi-laminated Kraft Tissue—Higher voltage breakdown—minimum leakage—high insulation resistance.
- 4—Dried, Impregnated and Filled Under Continuous Vacuum—Lower losses, particularly at higher temperatures—5,000 megohms per microfarad insulation resistance—longer life.
- 5—Hermetically Metal Sealed—Not affected by moisture, time or temperature up to 93° C.
- 6—Special Gasket, Pressure Sealed Terminals—Leak-proof joints—high dielectric strength.
- 7—Sturdy Lead Plated Steel Container—Non-corrosive—strong.
- 8—Rigidly Tested—Uniform Product.
- 9—Conservative D.C. Rating—Triple testing assures dependable service.
- 9—Conservative D.C. Rating—Triple testing dependable service.
- 10—Conservative Voltage Rating—Can be safely operated at 10% above rated voltage.

TYPE KG—330 Volts A.C. 60 Cycles. For Use on 110, 220 or 330 Volts A.C.

Cat. No.	Capacity Mfd.	Size Height x Width x Depth	List Price	Net Price
KG-3010	1	2" x 1 1/4" x 1"	\$3.00	\$1.80
KG-3020	2	2 3/4" x 1 3/4" x 1"	3.60	2.16
KG 3030	3	1 1/2" x 1 3/8" x 3/8"	4.00	2.40
KG-3040	4	3 1/2" x 2 1/2" x 1 1/8"	4.50	2.70
KG-3044	4, 4	3 1/2" x 2 1/2" x 1 1/8"	4.70	2.82
KG-3050	5	3 7/8" x 2 1/2" x 1 1/8"	5.00	3.00
KG-3060	6	4 1/8" x 2 1/2" x 1 1/8"	5.50	3.30
KG-3080	8	3 7/8" x 3 3/4" x 1 1/4"	6.60	3.96
KG-3100	10	4 1/8" x 3 3/4" x 1 1/4"	7.50	4.50
KG-3120	12	3 7/8" x 3 3/4" x 1 1/4"	9.00	5.40
KG-3150	15	4 1/8" x 3 3/4" x 1 1/4"	10.00	6.00
KG-3200	20	4 1/8" x 3 3/4" x 2 1/2"	12.00	7.20
KG-3250	25	4 1/8" x 3 3/4" x 3 1/8"	15.00	9.00
KG-3300	30	3 1/2" x 3 3/4" x 4 3/8"	18.00	10.80
KG-3500	50	5 3/8" x 3 3/4" x 4 3/8"	28.00	16.80

Other KG Dykanol units in 440 and 660 Volts A.C. ratings and cylindrical type units are also available. Ask for C-D Catalog No. 162.

TYPE KH—330 Volts A.C. 60 Cycles.

Cat. No.	Capacity Mfd.	Size Length x Width x Height	List Price	Net Price
KH-3010	1	3 3/8" x 3 3/8" x 1 1/8"	\$3.00	\$1.80
KH-3020	2	3 3/8" x 3 3/8" x 1 1/8"	3.16	2.16
KH-3030	3	3 3/8" x 3 3/8" x 1 1/8"	4.00	2.40
KH-3040	4	3 3/8" x 3 3/8" x 1 3/4"	4.50	2.70
KH-3050	5	3 3/8" x 3 3/8" x 2 1/8"	5.00	3.00

CORNELL



DUBILIER

CAPACITOR TEST INSTRUMENTS

C-D CAPACITOR ANALYZER



The Model BF-50 Capacitor Analyzer quickly and accurately measures all important characteristics of all types of capacitors. It offers the most accurate and thorough capacitor test of any instrument of its type, and may be operated on any 110-volt, 50-60 cycle power line. The instrument consists essentially of a Wien Bridge connected to a single stage of amplification which operates a "visual eye" for high sensitivity measurements of permanent accuracy.

A built-in power supply provides approximately 450 volts D.C. for making leakage and insulation resistance measurements. The degree of leakage is indicated by the "visual eye", making it possible to determine the exact condition of the capacitor under test.

A 12A7 tube is used as a rectifier and amplifier, while a 6E5 tube is used for the bridge detector and leakage indicator for measurements on all types of capacitors.

The analyzer will determine the true condition of all paper, mica and electrolytic capacitors, including A.C. motor starting types. It is the only instrument of its type which provides a complete test for all capacitors, with amplifier for adequate sensitivity, easy reading linear scales, push-button switches for simplicity of adjustments, D.C. voltage supply and visual eye leakage indicator.

The analyzer is supplied in an attractive walnut cabinet, complete with cord plug and test leads, but without 12A7 and 6E5 tubes.

FEATURES OF C-D ANALYZER BF-50

- 1—Measures Capacity—Accurately measures capacity of paper, mica, air, electrolytic and motor-starting capacitors from .00001 to 240. mfd.
- 2—Measures Power Factor—Measurements of power factor from zero to 50 percent on all types of electrolytic capacitors including motor-starting types.
- 3—Employs Wien Bridge—Assures permanent accuracy of capacity and power factor measurements. Readings not affected by line voltage variations.
- 4—Indicates Insulation Resistance—Insulation resistance measurements of paper and mica capacitors up to 1500 megohms. Also measures many types of insulation.
- 5—Indicates Leakage—Measurements of leakage of electrolytic capacitors by means of built-in direct current power supply.
- 6—Visual Eye Leakage Indicator—Provides simplified and reliable leakage tests on all types of capacitors. Enables measurements to be made rapidly.
- 7—Detects Defective Capacitors—Character measurements, such as leaky, shorted, open, high and low capacity, and high power factor on all capacitors.
- 8—High Sensitivity on all Measurements—Amplifier for capacity, power factor and leakage tests provides sharp and accurate readings. **Amplifier built in Analyzer.**
- 9—Balance Sensitivity Control—Provides sharp or broad balances for quick and accurate readings. All readings are made simply and directly.
- 10—Direct Reading Linear Scale Calibration—Provides simplified measurements. All scales on panel uniformly spaced, easy to read, thus avoiding possible errors in using multipliers or charts.
- 11—Push-Button Switching—For convenient and simplified adjustments, all tests and circuit changes are made by means of modern push-button switches.
- 12—Visual Eye Bridge Balance—Visual detector gives positive indication of bridge balance for convenient, simplified and accurate capacity and power factor measurements.
- 13—Six Color-Coded Scales—Accurately calibrated, six color-coded scales. **Uniformly spaced over total spacing of sixty inches. Easy to read. No "blind" spots.**
- 14—General Purpose Instrument—May be used to check continuity, capacity between circuits, insulation of transformer windings and other types of coils, etc.
- 15—Self-Contained—Portable—An instrument complete in itself, requiring no external standard, headphones, meters or accessories. A portable unit, for 110 volt, 50-60 cycle operation, supplied in walnut cabinet, removable cover, with carrying handle. Size, 6½ x 12 x 9¼ inches. Weight, 9 pounds.

MODEL BF-50 CAPACITOR ANALYZER

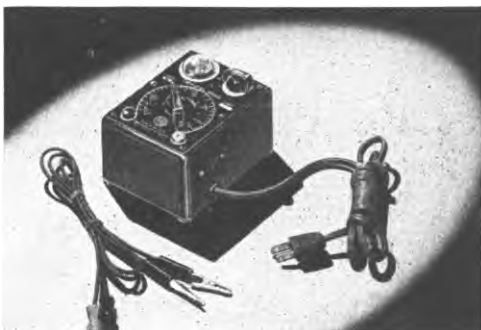
List Price, less tubes, \$41.50.

Net Price

\$24.90

For Operation on 110 volts, 50-60 cycles.

C-D CAPACITOR BRIDGE



The Model BN Midget Capacitor Bridge quickly and accurately measures all types of capacitors between limits of .00001 mfd. and .50. mfd. It employs Wien Bridge circuit for all measurements, the balance condition of which is indicated by dual type visual eye detector.

Capacity measurements on all types of capacitors can be made between the range of .00001 to 50. mfd. It also indicates power factor of electrolytic capacitors and has many other uses such as a continuity meter and check test on defective capacitors, opens, shorts, high, low capacity, high power factor, etc. Direct reading ranges are indicated on scale of dial directly in microfarads. No headphones, meters, standards or other accessories are required. It operates on any 110-volt, 60-cycle power line and uses a 12A7 tube which acts as a rectifier and amplifier and a 6AF6-G tube for bridge detector.

FEATURES OF C-D BRIDGE BN

- 1—Measures Capacity—Accurately measures capacity of paper, mica, electrolytic and air capacitors between limits of .00001 mfd. to 50. mfd.
- 2—Indicates Power Factor—Power factor of electrolytic capacitor, indicated by means of visual eye detector tube.
- 3—Detects Defective Capacitors—Detects many types of defective capacitors, open and short circuited, high and low capacity, and high power factor.
- 4—Checks Circuit Continuity—May be used on continuity meter. A handy instrument for checking circuits, coils, transformers and many other uses.
- 5—Employs Wien Bridge—Employs Wien Bridge circuit for all measurements. Accuracy independent of line voltage variations.
- 6—Visual Eye Bridge Balance—Dual type visual bridge balance for accurate measurements facilitates quick tests on service jobs.
- 7—Direct Reading Scale—Direct reading ranges with all scale markings directly in microfarads. Clear reading dial scale. All capacity calibrations marked on panel. No charts or multipliers required.
- 8—Self-Contained—The Capacitor Bridge is complete in itself and requires no headphones, standards, external meters or similar accessories.
- 9—Extremely Compact—The unusually small size of this bridge makes it particularly handy for portable use—3¼" x 5" x 3", weight 2 pounds.
- 10—Attractive—Supplied in attractive walnut Bakelite case complete with detachable test leads and useful instruction booklet.

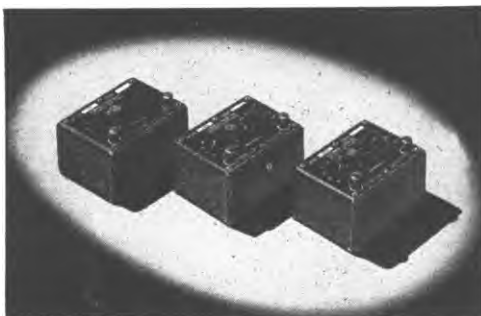
MODEL BN CAPACITOR BRIDGE

List Price, less tubes, \$16.50

For operation on 110 volts, 60 cycles.

Net Price **\$9.90**

C-D CAPACITOR DECADES



C-D Capacitor Decades provide accurate standards over a wide range of capacity. May be used in groups of the three decades, shown above, or used individually for maximum flexibility. They employ high quality capacitor standards of plus or minus 5% and 3% tolerances, with all scale markings calibrated progressively in microfarads for simplified, direct reading.

Each decade is furnished with calibration chart giving exact capacity values for all scale markings, extending use to more precise measurements.

RATED VOLTAGE—600 D.C.—220 A.C.

Model	Capacity	+ or - Tolerances	Dielectric	List Price	Net Price
CDA-5	.011 mfd. in .0001 mfd. steps	5%	Mica	\$9.00	\$5.40
CDB-5	1.1 mfd. in .01 mfd. steps	5%	Oil-Paper	9.00	5.40
CDB-3	1.1 mfd. in .01 mfd. steps	3%	Oil-Paper	11.50	6.90
CDC-5	10.0 mfd. in 1.0 mfd. steps	5%	Oil-Paper	16.00	9.60
CDC-3	10.0 mfd. in 1.0 mfd. steps	3%	Oil-Paper	18.50	11.10

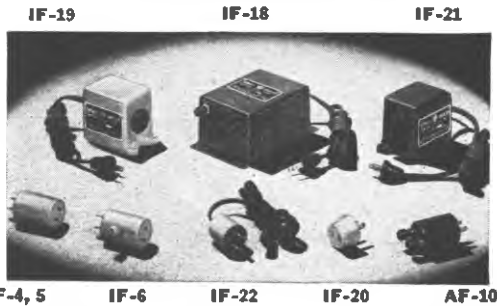
CORNELL



DUBILIER

QUIETONE INTERFERENCE FILTERS

RADIO AND APPLIANCE QUIETONES



Most satisfactory results are obtained when Quietones are installed at the source of the interference. This is because the high-frequency disturbance usually is carried a considerable distance affecting all receivers in the immediate vicinity. A Quietone installed in connection with an offending appliance corrects the noise conditions caused by that appliance, improving your neighbor's radio reception as well as your own.

Where source of interference cannot be located a Quietone connected in the electric supply line of the radio receiver will alleviate if not fully correct the condition. When a Quietone is installed, interference will be greatly reduced. Remaining interference usually enters receiver through the antenna system.

QUIETONES FOR USE AT THE RADIO RECEIVER

TYPE IF-4—For use on small radio receivers, such as A.C.-D.C. midget sets, etc., where noise level is not too severe. Connects in power line between the radio receiver plug and wall receptacle. Rating: 110 V.A.C.-D.C. 5 amps. **Colors**—Furnished in Ivory, walnut, or green finish.

List Price \$0.75 Net Price \$0.45

TYPE IF-18—For use in connection with all radio receivers where noise level is severe. Furnished in Bakelite case (see colors). Employs highly effective all-wave capacitive-inductive type filter. Ratings: 110 V.A.C.-D.C. 5 amps. **Colors**—Furnished in Ivory or walnut Bakelite.

List Price \$5.00 Net Price \$3.00

The Quietones listed below are highly effective in correcting radio noise conditions caused by practically all types of appliances.

QUIETONES FOR USE AT APPLIANCES

TYPE IF-5—For small electrical appliances such as food mixers, hair dryers, etc., where radio interference is of low intensity. Plug type filter. Convenient to install. Rating: 110 V.A.C.-D.C. 5 amps. **Colors**—Furnished in Ivory, walnut or green finish.

List Price \$0.75 Net Price \$0.45

TYPE IF-6—For all types of home electrical appliances where interference is of moderately low intensity. Installed between appliance and power supply line with short return lead which reduces radiation. Rating: 110 V.A.C.-D.C. 5 amps. **Colors**—Furnished in Ivory, walnut or green finish.

List Price \$1.25 Net Price \$0.75

TYPE IF-18—An efficient all-wave capacitive-inductive sectional band type filter for use in connection with all types of electrical appliances where interference conditions are severe. Provided with frame connection for reduction of radiation. Furnished in Bakelite case (see colors). Rating: 110 V.A.C.-D.C. 5 amps. **Colors**—Bakelite case. Ivory or walnut finish.

List Price \$5.00 Net Price \$3.00

TYPE IF-19—Capacitive-inductive type filter for use where interference is severe. Frame connection provided. Furnished in Bakelite case. Rating: 110 V.A.C.-D.C. 5 amps. **Colors**—Bakelite case. Ivory or walnut finish.

List Price \$4.00 Net Price \$2.40

TYPE IF-20—For use on small electrical appliances where interference is very low. Simply connected to cord plug of appliance and plugged into wall receptacle. Rating: 110 V.A.C.-D.C. 5 amps. **Colors**—Bakelite case. Ivory or walnut finish.

List Price \$0.50 Net Price \$0.30

TYPE IF-21—All-wave capacitive-inductive type filter for use on appliances where return lead to the frame of appliance cannot be made, such as shaver, barber clippers, etc. Furnished in Bakelite case. Rating: 110 V.A.C.-D.C. 1.6 amps. **Colors**—Bakelite case. Ivory or walnut finish.

List Price \$2.50 Net Price \$1.50

TYPE IF-22—For use in connection with electric shavers of all standard types. Line cord and plug provided with Schick and Packard type adapters which fit practically all type shavers. (Specify type desired when ordering).

TYPE IF-22A for Schick, Knapp Monarch, and similar type shavers. **TYPE IF-22B** for Packard, Zephyr, Remington-Rand and Ranson type shavers. Rating: 110 V.A.C. 5 amps. **Colors**—Bakelite case. Ivory or black finish.

List Price \$1.75 Net Price \$1.05

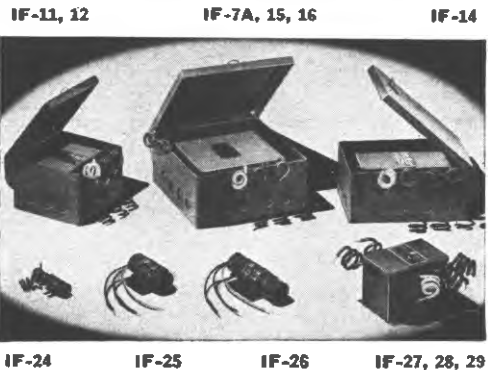
TYPE AF-10—ANTENNA ELIMINATOR for all types of receivers. Furnished in Bakelite case with two binding posts. Plugs into wall receptacle and provides an efficient aerial connection.

Colors—Furnished in Ivory, walnut or green finish.

List Price \$1.00 Net Price \$0.50

All Quietones listed above are available in a choice of two or three colors to match room color schemes or radio cabinet.

INDUSTRIAL QUIETONES



The development of radio receiving and broadcasting equipment has been perfected to a degree where complete enjoyment of programs is within the reach of all. However, only too frequently is radio reception marred by disturbing noises commonly referred to as "man-made static." This condition does not have to be endured. It is unnecessary to tolerate the majority of these offending noises. Quietone Filters enable you to enjoy quiet, noise-free reception.

Although atmospheric disturbances in many instances cause radio noises, this condition is not chronically annoying. With the average radio receiver, noise is generally caused by the operation of electrical appliances or apparatus which create high frequency oscillations. Many types of equipment cause minute sparks as a result of a change in electrical conditions within the device, which are essential to its operation. In effect these appliances act as miniature radio transmitters, setting up a disturbance which may affect radio receivers at a considerable distance.

The noise energy is transferred to the receiver by direct radiation and through an intricate network directly and indirectly through the power line, thus preventing the noise from reaching the antenna circuit.

It is highly desirable to correct noise conditions at the source as one filter properly installed at this point may eliminate the noise in a number of radio receivers. Where it is impossible to locate the equipment which is causing the interference a Quietone installed at the receiver will correct the noise in that receiver.

The Quietones listed below will correct radio noise conditions caused by motors, generators, elevators, stokers and many other types of industrial electrical apparatus. They are designed for convenient mounting, and contain highest quality capacitors, with lowest possible impedance internal connections. There are no current limitations for (CP) Capacitive Quietones.

CAPACITIVE (CP) QUIETONES

Type	Volts A.C.—D.C.	Connections	Housing	List Price	Net Price
IF-24	110	Flex-Leads	Metal	\$ 75	\$.45
IF-25	110-220	Flex-Leads	Metal	3.00	1.80
IF-26	110-220	Flex-Leads	Metal	5.00	3.00
IF-11	110	BX	Cutout Box	7.00	4.20
IF-12	220	BX	Cutout Box	10.00	6.00
IF-14*	110-220	BX	Cutout Box	14.00	8.40

NOTE: All Quietones listed above with exception of IF-14 are for single phase circuits. IF-14 is for 2 or 3 phase or 3-wire circuits.

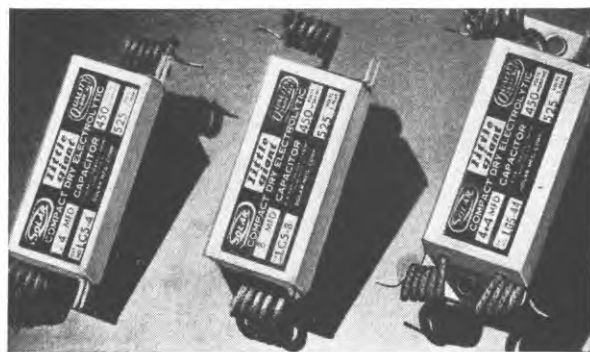
The Quietones listed below are for the more severe radio noise conditions caused by motors, generators, elevators, diathermy, oil burners, etc. They are designed for convenient mounting and quick connection to these machines. They consist of low-loss coils and highest quality capacitors with correct noise conditions in both broadcast and short wave receivers. They are the most efficient filters available for heavy duty application. All capacitive-inductive (CI) Quietones are for single phase circuits.

CAPACITIVE-INDUCTIVE (CI) QUIETONES

Type	Volts A.C.—D.C.	Max Amps	Connections	Housing	List Price	Net Price
IF-7A	110-220	5	BX	Cutout Box	\$7.50	\$4.50
IF-15	110-220	10	BX	Cutout Box	15.00	9.00
IF-16	110-220	20	BX	Cutout Box	22.00	13.20
IF-27	110	5	Flex-Leads	Steel Box	4.50	2.70
IF-28	110	10	Flex-Leads	Steel Box	8.00	4.80
IF-29	110	20	Flex-Leads	Steel Box	14.00	8.40

NOTE: The Net Prices listed herein are based on a 40% discount which is available to radio servicemen, amateurs, and dealers.

Quality Above All!
TRANSMITTING CAPACITORS
 MICA TYPES



MINICAP
 METAL ENCASED TUBULAR
 DRY ELECTROLYTICS

Catalog Number	Capacity Mfd.	D.C. Voltage Working	D.C. Voltage Surge	Dimensions, Inches Diameter	Length	List Price
M-010	10	25	40	1 1/8	1 1/2	\$.43
M-025	25	25	40	1 1/8	1 1/2	.50
M-0100	100	25	40	2 1/8	2 1/2	.90
M-5010	10	50	75	1 1/8	1 1/2	.45
M-5025	25	50	75	1 1/8	1 1/2	.55
M-50100	100	50	75	2 1/8	2 1/2	1.00
M-108	8	100	175	1 1/8	1 1/2	.40
M-116	16	100	175	2 1/8	2 1/2	.50
M-130	30	100	175	1 1/8	1 1/2	.60
M-204	4	150	225	1 1/8	1 1/2	.40
M-208	8	150	225	1 1/8	1 1/2	.45
M-212	12	150	225	1 1/8	1 1/2	.50
M-216	16	150	225	1 1/8	1 1/2	.55
M-220	20	150	225	1 1/8	1 1/2	.60
M-224	24	150	225	2 1/8	2 1/2	.60
M-230	30	150	225	2 1/8	2 1/2	.65
M-240	40	150	225	2 1/8	2 1/2	.70
M-258	8	250	300	1 1/8	1 1/2	.50
M-2516	16	250	300	2 1/8	2 1/2	.75
M-304	4	350	375	2 1/8	2 1/2	.50
M-308	8	350	375	1 1/8	1 1/2	.55
M-312	12	350	375	1 1/8	1 1/2	.70
M-316	16	350	375	2 1/8	2 1/2	.80
M-324	24	350	375	2 1/8	2 1/2	.90
M-404	4	450	525	1 1/8	1 1/2	.55
M-408	8	450	525	1 1/8	1 1/2	.60
M-412	12	450	525	2 1/8	2 1/2	.75
M-416	16	450	525	1 1/8	1 1/2	.90
M-420	20	450	525	2 1/8	2 1/2	1.00
M-508	8	525	600	1 1/8	1 1/2	.90
M-011	10-10	25	40	1 3/8	1 3/4	.70
M-200	8-8	150	225	1 3/8	1 3/4	.80
M-816	8-16	150	225	2 1/4	2 1/4	.85
M-1616	16-16	150	225	2 1/4	2 1/4	.95
M-2020	20-20	150	225	2 1/4	2 1/4	1.05
M-388	8-8	350	375	2 1/4	2 1/4	.95
M-488	8-8	450	525	1 3/8	2 1/4	1.05

Individually Packed

little giant
DRY ELECTROLYTICS

TYPE LG5—525 VOLTS S.P.

Catalog Number	Capacity Mfd.	Working Volts D.C.	Dimensions Inches	List Price
LG5-2	2	450	2 7/8 x 3/4 x 1/2	\$.65
LG5-4	4	450	2 7/8 x 1 x 1/2	.75
LG5-6	6	450	2 7/8 x 1 1/8 x 1/2	.90
LG5-8	8	450	2 7/8 x 1 1/8 x 1/2	.95
LG5-10	10	450	3 1/8 x 1 1/8 x 1/2	1.15
LG5-12	12	450	3 1/8 x 1 1/8 x 1/2	1.30
LG5-16	16	450	2 7/8 x 1 3/8 x 1	1.45
LG5-44	4+4	450	2 7/8 x 1 3/8 x 1	1.20
LG5-48	4+8	450	2 7/8 x 1 3/8 x 1 1/8	1.35
LG5-88	8+8	450	2 7/8 x 1 3/8 x 1 1/8	1.50
*LG5-888	8-8-8	450	2 1/2 x 1 5/8 x 1 1/8	2.20
LG5-888A	8+8-8	450	2 1/2 x 1 5/8 x 1 1/8	2.20

TYPE LG2—250 VOLTS S.P.

Catalog Number	Capacity Mfd.	Working Volts D.C.	Dimensions Inches	List Price
LG2-4	4	200	2 7/8 x 3/4 x 1/2	\$.65
LG2-6	6	200	2 7/8 x 1 x 1/2	.75
LG2-8	8	200	2 7/8 x 1 1/8 x 1/2	.80
LG2-10	10	200	2 7/8 x 1 x 1/2	.90
LG2-12	12	200	2 7/8 x 1 1/8 x 1/2	.95
LG2-16	16	200	2 7/8 x 1 1/8 x 1/2	1.05
LG2-20	20	200	2 7/8 x 1 1/8 x 1/2	1.20
LG2-25	25	200	3 1/8 x 1 1/8 x 1/2	1.25
LG2-30	30	200	3 1/8 x 1 1/8 x 1/2	1.40
LG2-44	4+4	200	2 7/8 x 1 3/8 x 1	.90
LG2-48	4+8	200	2 7/8 x 1 3/8 x 1	1.15
LG2-88	8+8	200	2 7/8 x 1 3/8 x 1	1.25
LG2-816	8+16	200	2 7/8 x 1 3/8 x 1	1.45
LG2-1216	12+16	200	2 7/8 x 1 3/8 x 1	1.60
LG2-1616	16+16	200	2 7/8 x 1 3/8 x 1 1/8	1.65
*LG2-888	8+8-8	200	2 7/8 x 1 3/8 x 1 1/8	1.90
LG2-888A	8+8-8	200	2 1/2 x 1 5/8 x 1 1/8	1.90

*Separate Sections.



RED-CAPS



SERVICE-TYPE DRY ELECTROLYTIC CAPACITORS
 Metal-Sealed; Tubular Form; Minimum Diameter

Catalog Number	Nominal Capacity Mfd.	Use Also For Mfd.	D.C. Voltage Working	D.C. Voltage Surge	Dimensions, Inches Diameter	Length	List Price
R-020	20	5, 10 or 25	25	40	1/2	2 3/8	\$.45
R-208	8	10	150	225	1/2	2 3/8	.45
R-216	16	12 or 15	150	225	1/2	2 3/8	.55
R-220	20	24 or 25	150	225	1/2	2 3/8	.60
R-230	30	35	150	225	1/2	2 3/8	.65
R-240	40	40 or 50	150	225	1/2	2 3/8	.70
*R-2020	20+20	16-16	150	225	1/2	2 3/8	1.05
R-504	4	5	450	525	1/2	2 3/8	.55
R-508	8	10	450	525	1/2	2 3/8	.60
R-515	15	12 or 16	450	525	1/2	2 3/8	.85
R-520	20	25	450	525	1/2	2 3/8	1.00
*R-588	8-8	10+10	450	525	1/2	2 3/8	1.05

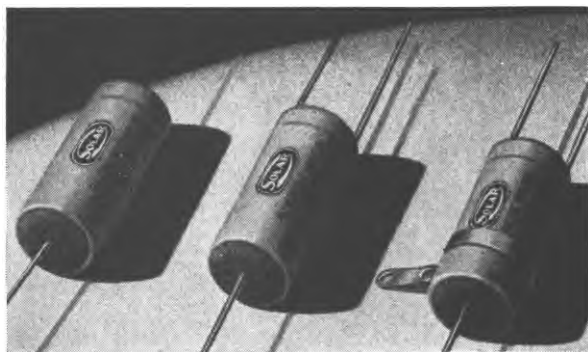
*Dual units, common cathode, with insulated leads.

R-12 CARTON—This convenient assortment contains one each of the twelve different Red-Caps listed above; ideal service stock for quick repairs..... 8.50



Quality Above All!

WET AND DRY ELECTROLYTICS



TYPE DT CARTRIDGE DRY ELECTROLYTICS

Varnished Paper Tubes — Bare Leads

Catalog Number	Capacity Mfd.	D.C. Voltage Working	Dimensions, Inches Length Diameter	List Price
DT-855	.5	450	2 5/8	\$.55
DT-856	1	450	2 3/4	.55
DT-857	2	450	2 3/4	.65
DT-858	4	450	2 3/4	.75
DT-859A	8	450	2 3/4	.95
DT-864	8	200	2 5/8	.83
DT-866	4	150	2 5/8	.60
DT-868	8	150	2 5/8	.75
DT-868A	16	150	2 3/4	.95
DT-869	Dual 4	150	2 3/4	.70
DT-871	5	100	2 1/8	.55
DT-872	10	100	2 1/8	.70
DT-873	5	50	2 1/8	.50
DT-874	10	50	2 1/8	.65
DT-875	25	50	2 3/4	.80
DT-876	50	50	2 3/4	1.20
DT-878	5	25	2 1/8	.50
DT-879	10	25	2 1/8	.50
DT-880	15	25	2 1/8	.55
DT-881	20	25	2 1/8	.60
DT-882	25	25	2 3/4	.65
DT-883	50	25	2 3/4	.95
DT-884	Dual 5	25	2 3/4	.70
DT-885	Dual 10	25	2 3/4	.70



DRY ELECTROLYTICS ROUND SCREW BASE CANS

TYPE D-1 3/8" x 4 3/8"; Leads; Insulated Can; Metal Base 3/4"			
Catalog Number	Capacity Mfd.	D.C. Voltage Working	List Price
D-800	8	475	\$1.50
D-804	4	450	.85
D-808	8	450	1.05
D-813	16	450	1.55
D-814	4+4*	450	1.30
D-818	4+8*	450	1.45
D-820	8+8*	450	1.60
D-838	8+8+8*	450	2.30
TYPE D-3-1 3/8" x 3 3/8"; Leads; Insulated Can; Metal Base 3/4"			
Catalog Number	Capacity Mfd.	D.C. Voltage Working	List Price
D3-8	8	450	1.05
D3-88	8+8*	450	1.60
TYPE DM-1" x 2 1/2"; Leads; Insulated Can; Metal Base 5/8"			
Catalog Number	Capacity Mfd.	D.C. Voltage Working	List Price
DM-504	4	450	.85
DM-508	8	450	1.05
DM-512	12	450	1.40
DM-516**	16	450	1.55
TYPE DI-2-1 3/8" x 4 3/8"; Lugs in Molded Screw Base 5/8"			
Catalog Number	Capacity Mfd.	D.C. Voltage Working	List Price
DI-877	8+8+8†	450	2.30

*Separate Section. **DM-516 can height 3 1/2". †Common Negative.



LARGE SIZE CARDBOARD BOXES

1. Standard for years
2. Lugs or Leads as listed
3. Wax filled—Moisture proof
4. With or without flanges

SINGLE SECTIONS—TWO TERMINALS

Lugs No.	Leads No.	Capacity Mfd.	D.C. Peak Voltage	Dimensions Inches	List Price
DA-602	DA-0602	2	500	2 1/4 x 1 1/8 x 5/8	\$.65
DA-604	DA-0604	4	500	4 1/4 x 1 1/8 x 5/8	.75
DA-608	DA-0608	8	500	4 1/4 x 1 1/8 x 7/8	.95
DA-610	DA-0610	10	500	4 3/8 x 1 3/8 x 1 1/4	1.15
DA-612	DA-0612	12	500	4 3/8 x 1 3/8 x 1 1/4	1.30
DA-616	DA-0616	16	500	4 3/8 x 1 3/8 x 1 1/8	1.45

If mounting flanges are required, specify letter A in addition to above catalog numbers.

MULTIPLE SECTIONS—WITH FLANGES

4 7/8" Mtg. Centers—Separate Sections

DJ-362	DJ-0362	8+8	500	4 3/8 x 1 3/8 x 1 7/8	1.50
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WET ELECTROLYTICS

1. "Accordion Star" anode
2. Film stabilization
3. Upright mounting
4. Can negative
5. Palmut included



TYPE ZD-1 3/8" x 4 3/8" Can Size; Base 3/4"

Catalog Number	Capacity Mfd.	D.C. Peak Voltage	List Price
ZD-4	4	500	\$.80
ZD-8	8	500	.95
ZD-12	12	500	1.15
ZD-16	16	500	1.35

TYPE Z-1 1/2" x 4 3/8" Can Size; Base 3/4"

Z-220	20	500	1.50
Z-224	24	500	1.65
Z-230	30	500	1.70
Z-235	35	500	1.75
Z-240	40	500	1.90

TYPE ZV-1 1/2" x 4 3/8" Can Size; Base 3/4"

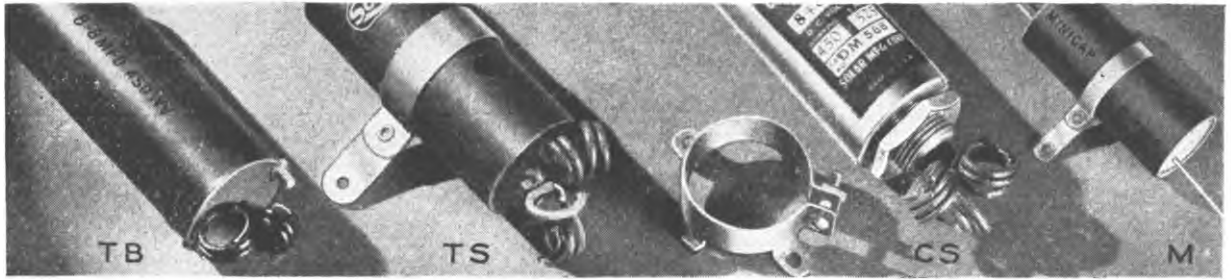
ZV-278	8	600	1.50
ZV-288	16	600	2.00

TYPE ZK ZM-1" Diam. Can ZK 4 3/8", ZM 3 1/8" High; Base 5/8"

ZK-8	8	500	.95
ZK-12	12	500	1.15
ZM-8	8	500	.95

Quality Above All!

**DRY ELECTROLYTIC CONDENSERS
REPLACEMENT TYPES**



TYPE DG UNIVERSAL REPLACEMENTS

Catalog Number	Cap. Working	Mfd. and Voltage	Connections Filter-Bypass	Con-tainer	Size, Inches	List Price
DG-5	32	16	100	CC	Tube T3 1 x4 ³ / ₈	\$1.25
M-2020	20	20	150	CC	Tube M 1 ¹ / ₈ x2 ¹ / ₄	1.05
DG-8	8	8	200	SS	Tube TS 1 x3 ¹ / ₄	1.10
DG-16	8	16	200	SS	Tube TS 1 x3 ¹ / ₄	1.30
DG-24	8	16-200	10-10-25	SS CC	Tube TB 1 ³ / ₈ x3 ¹ / ₄	1.70
DG-25	8	16-200	10-10-25	SS CC	Tube TS 1 ³ / ₈ x3 ¹ / ₄	1.70
DG-30	16	16	200	SS	Tube TS 1 x3 ¹ / ₄	1.45
DG-34	20	20	200	CC	Tube M 1 ¹ / ₈ x2 ¹ / ₄	1.20
DG-40	8	8	350	SS	Can CS 1 ³ / ₈ x3 ¹ / ₄	1.55
DG-49	8	8	450	SS	Tube TB 1 ¹ / ₄ x3 ¹ / ₄	1.35
DG-50	8	8	450	SS	Tube TS 1 ¹ / ₄ x3 ¹ / ₄	1.35
DG-58	8	12	450	SS	Tube TB 1 ³ / ₈ x3 ¹ / ₄	1.50
DG-59	8	16	450	SS	Tube TB 1 ³ / ₈ x3 ¹ / ₄	1.65
DG-60	8	16	450	SS	Tube TS 1 ³ / ₈ x3 ¹ / ₄	1.65
DG-61	8	20	450	SS	Tube TB 1 ³ / ₈ x4 ³ / ₈	1.80
DG-64	16	16	450	SS	Tube TB 1 ³ / ₈ x4 ³ / ₈	2.00
DG-65	16	16	450	SS	Tube TS 1 ³ / ₈ x4 ³ / ₈	2.00

CONTAINER CODE: TS—Cardboard tube with strap and also mounting ring; TB—Cardboard tube with spadebolts; CS—Round metal can; M—Minicap type, metal tube and mounting strap.

CONNECTIONS: CC—Common cathode (negative); SS—Separate sections.



**LARGE
ROUND CAN
DRYS**

1. Grounded round cans
2. Wax filled
3. Solar Screw & Solder Terminals

TYPE DP, 2 1/2" DIAMETER CANS

Catalog Number	Capacity Mfd.	D.C. Peak Volts	List Price
DP-2508	8-8	500	\$1.80
DP-2515	5-15	500	2.30
DP-2524	8-16	500	2.35
DP-2538	8+8+8	500	2.70

TYPE DQ, 3" DIAMETER CANS

Catalog Number	Capacity Mfd.	D.C. Peak Volts	List Price
DQ-2608	8-8	500	\$1.80
DQ-2624	8+8+8	500	2.70
DQ-2636	9+9+18	500	3.75

TYPE DR, 3 1/4" DIAMETER CANS

Catalog Number	Capacity Mfd.	D.C. Peak Volts	List Price
DS-2720	9-9-18-18	500	\$5.25

ELECTRIC FENCE CONTROL CAPACITORS

Catalog Number	Cap. Mfd. and Working Volts	Container	Size, Inches	List Price
DGM-1	1000 6	Tube M	1 ¹ / ₈ x3	\$2.00
DGM-2	2000 6	Tube M	1 ³ / ₈ x3	2.75
DGM-10	1000 12	Tube M	1 ³ / ₈ x3	2.50
DGM-12	2000 12	Tube M	1 ¹ / ₂ x4 ¹ / ₂	3.25

These are special Minicaps with strap for use in electric fence controls.

TYPE D6—SPECIAL 600 V-W ELECTROLYTICS

Cat. No.	Cap. Mfd.	Working Volts	Container	Size, Inches	List Price
DD-4	4	600	Screw-base Can	1 ³ / ₈ x3 ¹ / ₈	\$1.85
DD-8	8	600	Screw-base Can	1 ³ / ₈ x4 ³ / ₈	2.60

TYPE PD—PAPER REPLACEMENTS FOR DRYS

Cat. No.	Replacement for Mfd.	D.C. Working Voltage	Container	Size, Inches	List Price
PD-42	4	600	Cardboard Box	4 ¹ / ₄ x1 ¹ / ₈ x 7/8	\$1.20
PD-67	8	600	Cardboard Box	4 ³ / ₈ x1 ³ / ₈ x1 ¹ / ₄	1.60
PD-43	4	600	Screw-base Can	1 ³ / ₈ x4 ³ / ₈	1.35
PD-63	8	600	Screw-base Can	1 ¹ / ₂ x4 ³ / ₈	1.75

**TYPE DY
TWIST-PRONG
BASE**

1. Special Mounting
2. Thousands in 1939 Receivers
3. Trouble free
4. Molded Base for Perfect Sealing
5. Stable Temperature Characteristics



Catalog Number	Capacity Mfd. and D.C. Working Volts	Can Size, Inches	List Price
DY-10	10-450	1x2	\$.85
DY-20	20-450	1x2	1.25
DY-40	40-450	1x3	2.00
DY-61	20+20-150	1x2	1.20
DY-63	30+30-150	1x2	1.35
DY-73	20+20-250	1x2	1.70
DY-91	10+10-250	1x2 1/2	1.30
DY-92	20+20-450	1x3	2.20
DY-101	30+20-150+20-25	1x2	1.65
DY-111	15+15-250+20-25	1x2	2.00
DY-131	10-10-450-350+20-25	1x3	1.90



Quality Above All!

MICA CONDENSERS—ELIMOSTATS
TRIMMER CONDENSERS



BAKELITE MOLDED
MICA CONDENSERS

1. High Q
2. Low Power Factor
3. Permanency

Capacity Mfd.	MW 3/4" sq.		MT 5/8" sq.		MO 7/16" x 1/16"	
	No.	List Price	No.	List Price	No.	List Price
.000025			MT-1306	\$0.20	MO-1406	\$0.20
.00003			MT-1307	.20	MO-1407	.20
.00004			MT-1308	.15	MO-1408	.15
.00005	MW-1210	\$0.15	MT-1310	.15	MO-1410	.15
.0001	MW-1216	.15	MT-1316	.15	MO-1416	.15
.0002	MW-1218	.15	MT-1318	.15	MO-1418	.15
.00025	MW-1219	.20	MT-1319	.20	MO-1419	.20
.0003	MW-1220	.20	MT-1320	.20	MO-1420	.20
.0004	MW-1221	.20	MT-1321	.20		
.0005	MW-1222	.20	MT-1322	.20		
.001	MW-1227	.25	MT-1327	.25		
.002	MW-1233	.30				
.003	MW-1235	.40				
.004	MW-1237	.45				

PERMAWAX SILVER
MICA CONDENSERS

Silver mica molded in wax. Prices are for + or - 10% tol. Increase list as follows for closer tolerance:
±5%, 10%; ±3%, 20%; ±2%, 30%; ±1%, 50%.



Catalog Number	Capacity Mfd.	List Price	Catalog Number	Capacity Mfd.	List Price
MWS-100	.0001	\$.25	MOS-5	.000005	\$.35
MWS-150	.00015	.25	MOS-10	.00001	.30
MWS-200	.0002	.25	MOS-20	.00002	.30
MWS-250	.00025	.30	MOS-30	.00003	.30
MWS-300	.0003	.30	MOS-40	.00004	.25
MWS-400	.0004	.30	MOS-50	.00005	.25
MWS-500	.0005	.30	MOS-70	.00007	.25
MWS-600	.0006	.30	MOS-100	.0001	.25
MWS-700	.0007	.30	MOS-150	.00015	.25
MWS-800	.0008	.30	MOS-200	.0002	.25
MWS-900	.0009	.30	MOS-250	.00025	.30
MWS-1000	.001	.35	MOS-300	.0003	.30
MWS-1500	.0015	.35	MOS-400	.0004	.30
MWS-2000	.002	.40	MOS-500	.0005	.30
MWS-2500	.0025	.45			
MWS-3000	.003	.50			
MWS-4000	.004	.55			
MWS-5000	.005	.60			

Elim-O-Stats

RADIO NOISE SUPPRESSORS

Solar maintains a complete interference laboratory where engineers solve radio-noise problems of all types. The Elim-o-stats listed below should take care of all ordinary cases of interference either at the appliance or at the radio receiver as noted. For exceptional cases consult the expanded listing in Solar number 10 catalog or write giving details for engineering advice.

TYPE RA—Universal Elim-o-stat

For use at the radio receiver to eliminate interference of low intensity. It slips over the prongs of the line cord plug of the set. List Price \$3.40

TYPE RB—Universal Elim-o-stat

Plugs directly into the electrical outlet and the radio line cord plugs into the Elim-o-stat. Moderate price type for general use. Underwriters' approved. List Price \$75

TYPE RN—Receiver Elim-o-stat

High efficiency capacitive-inductive type. Sectional band suppression construction with coils designed for both broadcast and short-wave bands. Underwriters' approved. List Price \$6.00

JUMBO—Universal Elim-o-stat

Capacitive-inductive type for use either at the radio receiver or at the offending appliance. A popular merchandising leader. Underwriters' approved. List Price \$5.00

TYPE AE—Razor Elim-o-stat

Approved by the largest manufacturers of electric razors because of its superior effectiveness in suppressing radio noise. Capacitive-inductive type. Works in nearly all locations. Underwriters' approved. List Price \$2.50

TYPE AR—Razor Elim-o-stat

Carefully designed capacitive type which is very convenient to use. Underwriters' approved. List Price \$1.00

TYPE AH—Appliance Elim-o-stat

Large capacitive-inductive type filter of the sectional band suppression type. Rated at 5 amperes 110 v. A.C., making it useful for larger appliances or with several at once. For use at the appliance to suppress radio interference caused by the appliance to which it is applied. Underwriters' approved. List Price \$7.50



TRIMMER CONDENSERS

1. Exceptional Engineering Research
2. Freedom from drift
3. Precise Mechanical Construction

TYPE TB—Ceramic Base; Body Size 5/8" x 3/4"

Catalog Number	Capacity Range Mmf.	List Price
TB-30	3-30	\$.30
TB-90	4-90	.35
TB-180	35-180	.40

TYPE TC-D—Dual Ceramic Size 5/8" x 3/4"

Catalog Number	Capacity Range Mmf.	List Price
TC-D-30	3-30	.60
TC-D-70	5-70	.65
TC-D-140	50-140	.75

TYPE TP—Ceramic Base; Body Size 5/8" x 3/4"

Catalog Number	Capacity Range Mmf.	List Price
TP-130	7-130	.30
TP-260	15-260	.35
TP-490	85-490	.50
TP-750	160-750	.55
TP-1140	330-1140	.70
TP-1400	440-1400	.80

TYPE TYM—Flanged Bakelite Base; Size 3/2" x 3/2"

Catalog Number	Capacity Range Mmf.	List Price
TYM-10	1.1-10	.40
TYM-20	2-20	.35
TYM-30	3-30	.35

TYPE TR—Large Ceramic Base Size 1 1/8" x 1 3/8"

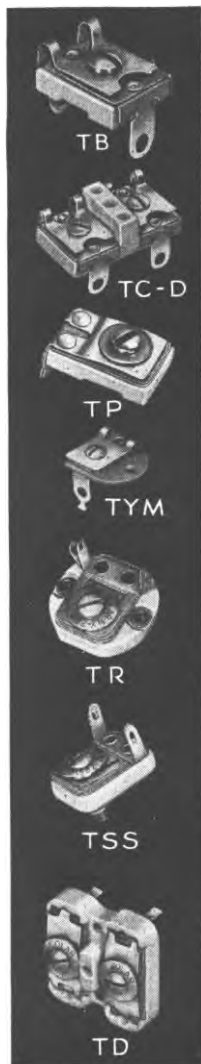
Catalog Number	Capacity Range Mmf.	List Price
TR-70	4-70	.50
TR-140	60-140	.60
TR-220	90-220	.70
TR-400	170-400	.80
TR-600	300-600	.90
TR-800	400-800	1.00
TR-1200	600-1200	1.20
TR-1600	1000-1600	1.50

TYPE TSS—Large Ceramic Base 1 3/8" x 1 1/8"

Catalog Number	Capacity Range Mmf.	List Price
TSS-70	40-70	.60
TSS-140	60-140	.70
TSS-220	90-220	.80
TSS-600	300-600	1.00

TYPE TD—Dual Ceramic Base 1 3/8" x 1 3/8"

Catalog Number	Capacity Range Mmf.	List Price
TD-70	15-70	.65
TD-220	35-220	.80
TD-600	95-600	1.00



Quality Above All!
PAPER CONDENSERS



MOISTURE-PROOF Wax-Molded SEALDTITES



SEALDITE TUBULAR PAPER CONDENSERS are made by a distinctive Solar wax-molding process which gives a more perfect seal than ever before attained for tubular units. This construction constitutes the only major advance in the making of paper tubulars in a decade. The new molded sealDites have phenomenal test and life characteristics. Windings are non-inductive; excellent at radio frequencies. The hot-soldered leads are 2 1/4" long.



SEALDITE ASSORTMENTS

The sealDite assortments S-10 and S-25 are attractively boxed assortments of the most popular capacities and voltages. The quantities are based on compilations of more than a year's sales to determine most used capacities.

S-10 ASSORTMENT

Consists of the following SealDites attractively boxed:

- Four .1 mfd. 600 V.W.
- Two .05 mfd. 600 V.W.
- Two .02 mfd. 600 V.W.
- Two .01 mfd. 600 V.W.

List Price\$2.00

S-25 ASSORTMENT

Consists of the following SealDites attractively boxed:

- Two .5 mfd. 600 V.W.
- Two .25 mfd. 600 V.W.
- Nine .1 mfd. 600 V.W.
- Five .05 mfd. 600 V.W.
- Three .02 mfd. 600 V.W.
- Four .01 mfd. 600 V.W.

List Price\$6.00

1000 V. D.C. WORKING

Catalog Number	Capacity Mfd.	Size, Inches Diam. Length	List Price
S-0279	.01	1/2 1 5/8	\$3.30
S-0280	.02	1 1 5/8	.75
S-0282	.05	3/8 2	.35

600 V. D.C. WORKING

S-0202	.0001	3/8 1 3/16	.15
S-0203	.00025	3/8 1 3/16	.15
S-0204	.0005	3/8 1 3/16	.15
S-0211	.001	3/8 1 3/16	.15
S-0211A	.0015	3/8 1 3/16	.15
S-0212	.002	3/8 1 3/16	.15
S-0213	.003	3/8 1 3/16	.15
S-0214	.004	3/8 1 3/16	.15
S-0215	.005	3/8 1 3/16	.15
S-0216	.006	3/8 1 3/16	.15
S-0221	.01	7/16 1 3/8	.15
S-0224	.02	7/16 1 3/8	.15
S-0226	.03	7/16 1 3/8	.20
S-0227	.04	1/2 1 3/8	.20
S-0230	.05	7/16 1 3/8	.20
S-0240	.1	1 2	.25
S-0244	.2	1 1/2 2 3/8	.35
S-0257	.25	3/4 2 3/8	.35
S-0265	.5	1 2 3/8	.50
S-0268	1.0	1 3	.80

400 V. D.C. WORKING

S-0219	.01	3/8 1 3/8	.15
S-0223	.02	7/16 1 3/8	.15
S-0228	.05	7/16 1 3/8	.15
S-0238	.1	1 1 3/8	.20
S-0243	.2	5/8 2 3/8	.25
S-0256	.25	1 1/2 2 3/8	.25
S-0263	.5	7/8 2 3/8	.35
S-0267	1.0	1 2 3/8	.50

200 V. D.C. WORKING

S-0235	.1	1/2 1 3/8	.20
S-0245	.25	3/4 2	.25
S-0261	.5	3/4 2 3/8	.35
S-0266	1.0	1 2 3/8	.50

SEALDITE DUALS

Catalog Number	Capacity Mfd.	Size, Inches Diam. Length	List Price
SS-0307A	.01+.01	600 V. 1/2 1 5/8	\$3.35
SS-0309A	.05+.05	600 V. 3/8 2	.45
SS-0310A	.1+.1	200 V. 3/8 2 3/8	.40

DOMINO BAKELITE-MOLDED PAPER CAPACITORS

1. Molded in Bakelite
2. Superior Appearance
3. Underwriters' Approved as line bypass
4. In cartons of ten



Catalog Number	Capacity Mfd.	D.C. Operating Voltage	Dimensions, Inches			List Price
			Length	Width	Thickness	
MP-4101	.001	1000	1 1/2	5/8	1/4	\$.25
MP-4103	.002	1000	1 1/2	5/8	1/4	.25
MP-4109	.005	1000	1 1/2	3/4	1/8	.25
MP-4111	.006	1000	1 1/2	3/4	3/16	.30
MP-4113	.008	1000	1 1/2	3/4	3/8	.30
MP-4129	.005	600	1 1/2	5/8	1/4	.20
MP-4131	.006	600	1 1/2	5/8	1/4	.20
MP-4135	.01	600	1 1/2	3/4	1/8	.25
MP-4137	.02	600	1 1/2	3/4	3/8	.30
MP-4139	.05	600	1 1/2	3/4	3/8	.30
MP-4140	.1	600	2	1	1/8	.30
MP-4141	.01	400	1 1/2	3/8	1/4	.20
MP-4147A	.1	400	2	1	1/8	.25
MP-4148	.25	400	2	1	1/8	.35



Quality Above All!
PAPER CONDENSERS



AUTO GENERATOR CAPACITORS

Catalog Number	Code Word	Capacity Mfd.	Size, Inches Dia.	Length	List Price
P-2702	Fawob	.25	1 1/8	2	\$.40
P-2705	Fazuc	.5	1 1/8	2	.50
P-2708	Fabad	1.	1	2 1/4	.70

AUTO AMMETER CAPACITORS

P-2722	Faarb	.5	3/4	2 1/4	.45
P-2724	Faald	1.	1 1/8	2 3/16	.65

DOME LIGHT FILTER

RF-0143	Domeb	Cap.+Choke	1	2%	.80
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SPECIAL FORD CAPACITORS

RF-0132	Foard	V-8 to 1936	1 1/8	2	.60
RF-0133	Foade	1937, 1938	1 1/8	2	.50

OVAL TUBULAR CAPACITOR

S-0286A	Roval	.5—120 V.	7/16 x 3/4 x 2 3/16	.45
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SPECIAL AUTO VIBRATOR UNIT

S-0286M	Rowla	Dual .0008	1/4 x 1 1/8 x 1 1/8	.50
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TYPE VIM IN SEALED PAPER TUBES

Catalog Number	Code Word	Cap. Mfd.	D.C. Volts Working	Size, Inches Dia.	Length	List Price
VIM-1	Veeim	.005	1600	7/16	1 3/8	\$.35
VIM-3	Veeaq	.007	1600	7/16	1 3/8	.35
VIM-5	Veep	.01	1600	1/2	1 3/8	.35
VIM-7	Veete	.02	1600	7/8	1 3/8	.35
VIM-11	Veaez	.01	1000	7/8	1 3/8	.30
VIM-13	Veaac	.02	1000	7/8	1 3/8	.30
VIM-15	Veek	.05	1000	3/8	1 3/8	.35

TOM THUMB WRAPPED SECTIONS

1000 VOLTS D.C. WORKING; 2000 V. TEST

Catalog Number	Code Word	Capacity Mfd.	Dimensions, Inches Length	Width	Thickness	List Price
TT-11	Pibap	.1	2 1/2	1 1/2	3/4	\$.60
TT-12	Picet	.25	3	1 3/8	1 1/8	.75
TT-13	Pidif	.5	4 1/4	1 3/4	3/8	1.00
TT-14	Pifob	1.0	4 1/4	2 1/8	1 3/8	1.50
TT-15	Pihyc	2.0	4 1/4	2 7/8	1 3/8	2.50

600 VOLTS D.C. WORKING; 1200 V. TEST

TT-01	Pikup	.1	2 1/2	1 3/8	3/4	.40
TT-025	Pilot	.25	2 1/2	1 1/2	3/2	.50
TT-05	Pimif	.5	2 1/2	1 3/8	3/8	.60
TT-1	Pineb	1.0	2 1/2	1 3/8	3/8	.90
TT-2	Pipac	2.0	2 1/2	1 3/8	1 3/8	1.35
TT-4	Piryk	4.0	2 1/2	2 3/8	1 3/8	2.70

400 VOLTS D.C. WORKING; 800 V. TEST

TT-22	Pisap	.25	2 1/2	1 3/8	5/8	.40
TT-23	Pitet	.5	2 1/2	1 1/2	7/8	.50
TT-24	Pivif	1.0	2 1/2	1 1/8	7/8	.75
TT-25	Piwob	2.0	2 1/2	1 3/4	1 3/8	1.15
TT-26	Pixuc	4.0	2 1/2	2 1/2	1 3/8	2.00

200 VOLTS D.C. WORKING; 400 V. TEST

TT-34	Pibab	1.0	2 1/2	1 3/8	3/8	.60
TT-35	Pidoc	2.0	2 1/2	1 3/8	1 1/8	.95
TT-36	Pilak	4.0	2 1/2	1 3/4	1 3/8	1.70

CONDENSERS IN DRAWN CANS



P1511 Dual Center Lug Common

TYPE XV—1 1/8" x 1" x 3/4"

Catalog Number	Capacity	V.W.D.C.	List Price
P1503	.5	200	\$.80
P1509	.1	400	.65
P1511	.1+1	400	.80
P1513	.1	600	.75

TYPE XV—2" x 1 3/4" x 7/8"

P1871	1.	200	1.05
P1821	.5	400	.95

TYPE XIX—2" x 2 1/4" x 1"

P1901	2.	200	1.50
P1921	1.	400	1.25
P1925	.5+5	400	1.25
P1930	.5	600	1.20

Quality Above All!
TRANSMITTING CAPACITORS
 OIL-PAPER TYPES



TRANSOIL TRANSMITTING CAPACITORS
 TYPE XL

1. Oil Impregnated
2. Oil filled
3. Vacuum Sealed
4. Rigid Sections
5. Wet-process Insulators
6. Separable Clamps

TYPE XT—TUBULAR
 Oil Impregnated—Metal Case

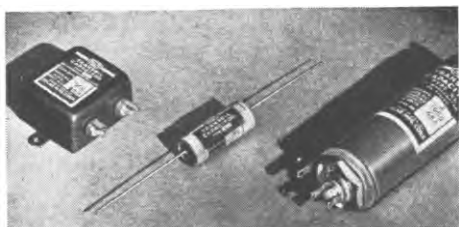
Catalog Number	Cap. Mfd.	Operating Volts D.C.	Size, Inches	List Price
XT-0005	.0005	1600	1/2x1 1/2	\$.60
XT-001	.001	1600	1/2x1 1/2	.60
XT-002	.002	1600	1/2x1 1/2	.60
XT-003	.003	1600	1/2x1 1/2	.60
XT-004	.004	1600	1/2 x 1 1/2	.60
XT-005	.005	1600	3/8 x 1 3/4	.60
XT-007	.007	1600	3/8 x 1 3/4	.60
XT-01	.01	1600	3/8 x 2 1/8	.60
XT-02	.02	1600	3/4 x 2 1/8	.65
XT-05	.05	1600	1 1/8 x 2 1/8	.80
XT-1	.1	1600	1 3/8 x 2 1/4	.90
XT-101	.01	1000	3/8 x 1 3/4	.50
XT-102	.02	1000	3/8 x 1 3/4	.55
XT-105	.05	1000	1 1/8 x 2 1/8	.65
XT-11	.1	1000	1 3/8 x 2 1/8	.83

TYPE XD—DRAWN SHELL CAN
 Oil Impregnated—Oil Filled

Catalog Number	Cap. Mfd.	Operating Volts D.C.	Size, Inches	List Price
XD-61	.1	600	1 1/8 x 1 x 3/4	1.45
XD-625	.25	600	1 1/8 x 1 x 3/4	1.70
XD-65	.5	600	2 x 1 3/4 x 1	1.95
XD-11	.1	1000	1 1/8 x 1 x 3/4	1.80
XD-125	.25	1000	2 x 1 3/4 x 1	2.20

TYPE XC—ROUND INVERTED AL. CAN
 Oil Impregnated—Oil Filled

Catalog Number	Cap. Mfd.	Operating Volts D.C.	Size, Inches	List Price
XC-61	1	600	1 1/2 x 3	2.25
XC-62	2	600	1 1/2 x 3	2.75
XC-64	4	600	1 1/2 x 4 3/8	3.75
XC-11	1	1000	1 1/2 x 3	2.50
XC-12	2	1000	1 1/2 x 4 3/8	3.25
XC-155	.5	1500	1 1/2 x 3	3.00
XC-151	1	1500	1 1/2 x 4 3/8	3.25



TYPE XL—RECTANGULAR CANS
 Oil Impregnated—Oil Filled

Catalog Number	Cap. Mfd.	Size, Inches	List Price
600 D.C. OPER. VOLTS—440 R.M.S. RECT. A.C.			
XL-6-1	1	2 1/8 x 1 3/4 x 1	\$3.50
XL-6-2	2	2 7/8 x 1 3/4 x 1	4.25
XL-6-4	4	3 5/8 x 2 1/2 x 1 1/8	5.50
1000 D.C. OPER. VOLTS—660 R.M.S. RECT. A.C.			
XL-10-05	.5	2 1/8 x 1 3/4 x 1	3.00
XL-10-1	1	2 3/8 x 1 3/4 x 1	3.75
XL-10-2	2	4 x 1 3/4 x 1	5.00
XL-10-4	4	4 3/4 x 2 1/2 x 1 1/8	6.25
1500 D.C. OPER. VOLTS—1000 R.M.S. RECT. A.C.			
XL-15-1	1	4 x 1 3/4 x 1	4.50
XL-15-2	2	4 3/4 x 2 1/2 x 1 1/8	6.25
XL-15-4	4	4 3/4 x 3 3/4 x 1 1/2	8.50
2000 D.C. OPER. VOLTS—1500 R.M.S. RECT. A.C.			
XL-20-01	.1	2 1/8 x 1 3/4 x 1	4.00
XL-20-025	.25	2 1/8 x 1 3/4 x 1	4.25
XL-20-05	.5	2 7/8 x 1 3/4 x 1	4.50
XL-20-1	1	3 5/8 x 2 1/2 x 1 1/8	5.50
XL-20-2	2	4 3/4 x 3 3/4 x 1 1/2	6.50
XL-20-4	4	4 3/4 x 3 3/4 x 2 1/4	9.00
2500 D.C. OPER. VOLTS—1800 R.M.S. RECT. A.C.			
XL-25-1	1	4 3/4 x 3 3/4 x 1 1/4	8.00
XL-25-2	2	4 3/4 x 3 3/4 x 2 1/4	13.00
3000 D.C. OPER. VOLTS—2200 R.M.S. RECT. A.C.			
XL-30-01	.1	2 7/8 x 1 3/4 x 1	8.50
XL-30-025	.25	3 5/8 x 2 1/2 x 1 1/8	9.00
XL-30-05	.5	4 3/4 x 3 3/4 x 1 1/2	10.00
XL-30-1	1	4 3/4 x 3 3/4 x 2 1/4	12.00
XL-30-2	2	4 3/4 x 3 3/4 x 3 1/8	15.00
4000 D.C. OPER. VOLTS—2800 R.M.S. RECT. A.C.			
XL-40-01	.1	3 5/8 x 2 1/2 x 1 1/8	15.00
XL-40-025	.25	4 3/4 x 3 3/4 x 1 1/2	16.00
XL-40-05	.5	4 3/4 x 3 3/4 x 2 1/4	18.00
5000 D.C. OPER. VOLTS—3500 R.M.S. RECT. A.C.			
XL-50-01	.1	4 3/4 x 2 1/2 x 1 1/8	17.00
XL-50-025	.25	4 3/4 x 3 3/4 x 1 1/2	18.00
XL-50-05	.5	4 3/4 x 3 3/4 x 2 1/4	20.00
6000 D.C. OPER. VOLTS—4400 R.M.S. RECT. A.C.			
XL-60-01	.1	4 3/4 x 3 3/4 x 1 1/2	20.00
XL-60-025	.25	4 3/4 x 3 3/4 x 3 1/8	22.00



Quality Above All!
TRANSMITTING CAPACITORS
 OIL-PAPER TYPES



SOLAREX
 OIL IMPREGNATED OIL FILLED
 TRANSMITTING CAPACITORS

Solarex Filter Capacitors are ideal for the advanced amateur and general transmitting use where value is a consideration. Oil impregnated under high vacuum, oil filled and hermetically sealed Solarex are supplied with detachable mounting rings.

600 D.C. or 440 R.M.S. Rect. A.C. W.V.—1200 Volts D.C. Test

Catalog Number	Capacity Mfd.	Diameter	Dimensions, Inches Can Height	List Price
X-062	2	2	2 3/8	\$3.25
X-064	4	2	3 3/8	4.50

1000 D.C. or 660 R.M.S. Rect. A.C. W.V.—2000 Volts D.C. Test

X-11	1	2	1 7/8	2.75
X-12	2	2	2 3/8	3.75
X-14	4	2	4 1/8	4.75

1500 D.C. or 1000 R.M.S. Rect. A.C. W.V.—3000 Volts D.C. Test

X-011	1	2	2 3/8	3.50
X-012	2	2	3 3/8	4.75
X-014	4	2 1/2	4 3/8	6.25

2000 D.C. or 1500 R.M.S. Rect. A.C. W.V.—4000 Volts D.C. Test

X-21	1	2	3 3/8	4.50
X-22	2	2 1/2	3 3/8	5.00
X-24	4	3	4 1/4	7.00

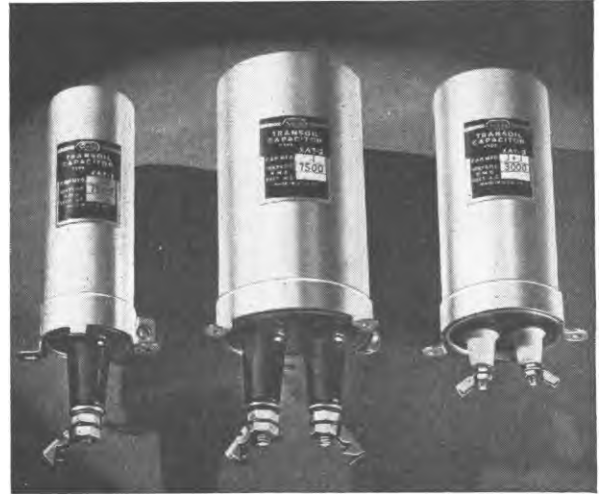
3000 D.C. or 2200 R.M.S. Rect. A.C. W.V.—6000 Volts D.C. Test

X-31	1	2 1/2	4 5/8	9.00
X-32	2	3	4 1/4	11.00



TYPE XF HIGH VOLTAGE TUBULARS
 Oil Impregnated—Oil Filled

Catalog Number	Capacity Mfd.	D.C. Volts Operating	Size, Inches Diameter Length	List Price
XF-2-25	.005	2000	1 1/2	\$1.50
XF-2-11	.01	2000	1 1/2	1.60
*XF-2-01	.1	2000	3 3/4	1.75
XF-3-25	.005	3000	1 7/8	1.65
XF-3-11	.01	3000	1 7/8	1.70
XF-3-12	.02	3000	2 1/4	1.75
XF-3-13	.03	3000	2 1/2	1.80
*XF-3-15	.05	3000	3	1.90



**SPECIAL HIGH VOLTAGE
 TELEVISION CAPACITORS**

Built to special television specifications with adequate safety margins for the rigid requirements of television use. Oil impregnated, oil filled, in hermetically sealed cans with wet-process stand-off insulators and detachable mounting rings.

TYPE XAT-1

Single Section, Grounded Can; Single Insulator

Catalog Number	Capacity Mfd.	D.C. Volts Operating	Size, Inches Diameter Length	List Price
XAT-1-25	.005	3000	1 1/2 2 1/8	\$4.50
XAT-1-11	.01	3000	1 1/2 2 1/8	4.60
XAT-1-15	.05	3000	1 1/2 2 3/8	4.75
*XAT-1-01	.1	3000	1 1/2 3	5.00
*XAT-1-025	.25	3000	2 2 3/4	6.50
XAT-1-71	.01	7500	1 1/2 3 1/2	6.00
XAT-1-12	.02	7500	1 1/2 4 1/2	6.50
*XAT-1-13	.03	7500	1 1/4 5	7.00
XAT-1-75	.05	7500	2 4 1/2	8.00

TYPE XAT-2

Single Section, Insulated from Can; Two Insulators

XAT-2-001	1.	2000	2 1/2 4 1/8	6.00
XAT-2-002	2.	2000	3 4 1/2	8.50
XAT-2-15	.05	3000	2 1/2 2 3/8	5.75
XAT-2-01	.1	3000	2 1/2 2 3/8	6.25
*XAT-2-025	.25	3000	2 1/2 2 1/2	7.50
XAT-2-05	.5	3000	2 1/2 3 1/8	9.00
XAT-2-100	1.	3000	3 4 1/2	12.00
XAT-2-11	.01	7500	2 1/2 3 7/8	7.50
XAT-2-12	.02	7500	2 1/2 3 7/8	8.25
*XAT-2-13	.03	7500	2 1/2 3 7/8	9.00
XAT-2-75	.05	7500	2 1/2 4 1/8	10.00
XAT-2-71	.1	7500	3 4 1/2	12.50

TYPE XAT-3

Dual Sections, Common Ground to Can; Two Insulators

*XAT-3-201	.1+.1	3000	2 1/2 3 5/8	9.00
XAT-3-2025	.25+.25	3000	3 3 1/2	12.00

*Stock items.



TYPE XG HIGH VOLTAGE TUBULARS
 Oil Impregnated—Wax Filled

Catalog Number	Capacity Mfd.	D.C. Volts Operating	Size, Inches Diameter Length	List Price
XG-1-15	.05	1500	3/4 4 5/8	\$1.10
XG-1-01	.1	1500	3/4 4 1/8	1.20
XG-2-15	.05	2000	1 4 3/8	1.20
*XG-2-01	.1	2000	1 1/4 4 5/8	1.35
XG-2-25	.005	2500	3/4 3 1/8	1.00
XG-2-11	.01	2500	3/4 4 1/8	1.10
XG-2-12	.02	2500	7/8 4 1/8	1.20
*XG-25-15	.05	2500	1 4 5/8	1.40
*XG-25-01	.1	2500	1 1/2 4 5/8	1.60

Quality Above All!

TRANSMITTING CAPACITORS
MICA TYPES



**TRANSMICA
CAPACITORS**

1. High Q Characteristics
2. Low corona losses
3. Ample voltage protection
4. Solar clamp construction
5. Vacuum treated
6. Rust proofed metal parts



TYPE XA PORCELAIN CASE CAPACITOR

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XA

Catalog Number	Code Word	Capacity Mfd.	Maximum D.C. Voltage	A.C. Test Voltage-R.M.S.	Maximum Amperes Operating				List Price
					15000 Kc.	7500 Kc.	3750 Kc.	1875 Kc.	
XA-12-45	Vaxic	.00005	12500	10000	3.5	2.5	1.7	1	\$ 3.75
XA-12-31	Vaxat	.0001	12500	10000	5.5	4.5	3	2	3.75
XA-12-325	Vaxer	.00025	12500	10000	7	8	5	4	3.75
XA-7-35	Vaxul	.0005	7000	6000	8	8	6	4	3.75
XA-12-35	Vaxon	.0005	12500	10000	8	9	7	6	4.25
XA-3-21	Vaxto	.001	3500	3000	7	9	8	6	3.75
XA-7-21	Vaxdi	.001	7000	6000	8	9	9	8	4.25
XA-12-21	Vaxhu	.001	12500	10000	10	10	11	12	5.00
XA-3-215	Vaxpe	.0015	3500	3000	7	8	8	5	4.00
XA-7-215	Vaxka	.0015	7000	6000	8	9	10	8	4.75
XA-12-215	Vexog	.0015	12500	10000	9	10	11	10	5.50
XA-3-22	Vexab	.002	3500	3000	7	8	9	7	4.25
XA-7-22	Vexil	.002	7000	6000	9	9	10	10	5.25
XA-12-22	Vexuc	.002	12500	10000	9	11	12	14	6.50
XA-3-23	Vexez	.003	3500	3000	8	9	10	8	5.00
XA-7-23	Vixum	.003	7000	6000	8	9	10	11	6.00
XA-12-23	Vixah	.003	12500	10000	9	11	12	14	8.00
XA-3-25	Vixek	.005	3500	3000	10	10	11	9	6.00
XA-7-25	Vixil	.005	7000	6000	10	12	14	16	7.00
XA-10-25	Vixob	.005	10000	8000	10	12	14	16	9.50
XA-3-11	Voxac	.01	3500	3000	10	12	14	16	7.00
XA-7-11	Voxay	.01	7000	6000	10	12	14	16	9.50
XA-2-12	Voxep	.02	2000	1600	10	12	14	16	7.00
XA-3-12	Voxol	.02	3500	3000	12	14	16	18	8.75
XA-3-15	Voxux	.05	3500	3000	12	14	16	18	11.50
XA-2-01	Vixxy	.1	2000	1600	12	14	16	18	11.00

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XS

TYPE XS BAKELITE CASE CAPACITOR

Catalog Number	Code Word	Capacity Mfd.	Maximum D.C. Voltage	A.C. Test Voltage-R.M.S.	Maximum Amperes Operating				List Price*
					3000 Kc.	1000 Kc.	300 Kc.	100 Kc.	
XS-6-45	Vukon	.00005	6000	5000	1.5	.8	.2	.07	\$12.00
XS-6-31	Vulet	.0001	6000	5000	1.3	.5	.3	.1	12.00
XS-6-32	Vumas	.0002	6000	5000	2.5	.8	.3	.1	12.00
XS-6-325	Vunir	.00025	6000	5000	5	2.5	1	.3	12.00
XS-6-35	Vusum	.0005	6000	5000	4	2	1.4	.8	12.00
XS-6-375	Vutab	.00075	6000	5000	5	3.5	2	1	12.00
XS-6-21	Vuroc	.001	6000	5000	7	4	2	1	12.00
XS-6-215	Vubel	.0015	6000	5000	9	5	3	1.5	12.00
XS-3-22	Vudin	.002	3500	3000	6	3	1.5	.8	9.50
XS-7-22	Vuhop	.002	7500	6000	9	5	3	1.8	12.00
XS-6-225	Vujon	.0025	6000	5000	9	6	4	2	12.00
XS-3-23	Vupej	.003	3500	3000	8	6	4	2	12.00
XS-3-24	Vuzek	.004	3500	3000	8	4	2.6	1.4	12.00
XS-6-24	Vugah	.004	6000	5000	11	8.5	5.5	2.5	12.00
XS-2-25	Vuqil	.005	2500	2000	8	5	3	1.5	12.00
XS-3-25	Vureq	.005	3500	3000	9	6	4	2	12.00
XS-3-28	Vudaq	.008	3500	3000	10	7	5	3	12.00
XS-2-11	Vuwin	.01	2500	2000	10	8	5	2	12.00
XS-2-115	Vuzut	.015	2500	2000	12	12	8	4	12.00
XS-2-12	Vutox	.02	2500	2000	12	11	10	7	13.00
XS-2-13	Vubat	.03	2500	2000	14	20	15	7	13.00
XS-2-14	Vukex	.04	2000	1500	12	13	11	6	12.00
XS-2-15	Vumow	.05	2000	1500	13	15	12	7	12.50
XS-1-01	Vunex	.1	1000	500	17	20	15	8	13.50

*For low-loss Bakelite case, add \$1.00.



Quality Above All!
TRANSMITTING CAPACITORS
 MICA TYPES



TYPE XM HIGH VOLTAGE
BAKELITE-MOLDED MICA
CAPACITORS

High Q characteristics. Vacuum heat-treated. Exceptional stability. Capacity tolerance plus or minus 10%. Two sizes.

Size A—1 3/4" x 1 5/8" x 3/8" thick—1 1/4" mtg. centers
 Size B—1 3/4" x 1 1/8" x 7/8" thick—1 1/4" mtg. centers



600 D.C. OPERATING VOLTS 1000 D.C. TEST VOLTAGE				1200 D.C. OPERATING VOLTS 2500 D.C. TEST VOLTAGE				2500 D.C. OPERATING VOLTS 5000 D.C. TEST VOLTAGE			
Catalog Number	Capacity Mfd.	Size	List Price	Catalog Number	Capacity Mfd.	Size	List Price	Catalog Number	Capacity Mfd.	Size	List Price
XM-6-45	.00005	A	\$.60	XM-12-45	.00005	A	\$.70	XM-25-45	.00005	A	\$.90
XM-6-31	.0001	A	.60	XM-12-31	.0001	A	.70	XM-25-31	.0001	A	.90
XM-6-32	.0002	A	.60	XM-12-32	.0002	A	.70	XM-25-32	.0002	A	1.05
XM-6-325	.00025	A	.60	XM-12-325	.00025	A	.70	XM-25-325	.00025	A	1.05
XM-6-35	.0005	A	.60	XM-12-35	.0005	A	.70	XM-25-35	.0005	A	1.25
XM-6-21	.001	A	.60	XM-12-21	.001	A	.90	XM-25-21	.001	A	1.50
XM-6-215	.0015	A	.60	XM-12-215	.0015	A	1.15	XM-25-215	.0015	A	1.95
XM-6-22	.002	A	.65	XM-12-22	.002	A	1.35	XM-25-22	.002	A	2.25
XM-6-225	.0025	A	.75	XM-12-225	.0025	A	1.45	XM-25-23	.003	A	2.75
XM-6-23	.003	A	.85	XM-12-23	.003	A	1.55	XM-25-24	.004	A	3.15
XM-6-24	.004	A	.85	XM-12-24	.004	A	1.55	XM-25-25	.005	A	3.40
XM-6-25	.005	A	.85	XM-12-25	.005	A	1.75	XM-25-26	.006	A	3.50
XM-6-26	.006	A	1.00	XM-12-26	.006	A	1.75	XM-25-28	.008	B	3.80
XM-6-28	.008	A	1.20	XM-12-28	.008	A	2.25	XM-25-11	.01	B	4.10
XM-6-11	.01	A	1.40	XM-12-11	.01	A	2.80	XM-25-115	.015	B	4.50
XM-6-115	.015	A	1.60	XM-12-115	.015	B	3.35				
XM-6-12	.02	A	1.85	XM-12-12	.02	B	3.95				
XM-6-125	.025	B	2.30	XM-12-125	.025	B	4.40				
XM-6-13	.03	B	2.50	XM-12-13	.03	B	4.60				
XM-6-14	.04	B	3.25								
XM-6-15	.05	B	3.85								



TYPE XB HIGH VOLTAGE
BAKELITE MOLDED CAPACITORS
RECTANGULAR SHAPE, WITH LEADS

Flat units of quality mica construction, molded in low loss bakelite equipped with leads. Standard tolerance is plus or minus 10%. Size B with mounting clamp. Individually packaged.

Size A—1 3/8" x 3/4" x 3/8" thick. Size B—2" x 1" x 3/8" thick.

TYPE XB-1 2000 V.D.C. TEST—1000 V. OPERATING				TYPE XB-2 4000 V.D.C. TEST—2000 V. OPERATING				TYPE XB-3 6000 V.D.C. TEST—3000 V. OPERATING			
Catalog Number	Capacity Mfd.	Size	List Price	Catalog Number	Capacity Mfd.	Size	List Price	Catalog Number	Capacity Mfd.	Size	List Price
XB-1-31	.0001	A	\$.50	XB-2-31	.0001	A	\$.70	XB-3-45	.00005	A	\$.90
XB-1-32	.0002	A	.50	XB-2-32	.0002	A	.70	XB-3-31	.0001	A	1.00
XB-1-325	.00025	A	.50	XB-2-325	.00025	A	.75	XB-3-32	.0002	A	1.05
XB-1-35	.0005	A	.55	XB-2-35	.0005	A	.80	XB-3-325	.00025	A	1.05
XB-1-21	.001	A	.60	XB-2-21	.001	A	.85	XB-3-35	.0005	A	1.25
XB-1-215	.0015	A	.65	XB-2-215	.0015	A	1.10	XB-3-21	.001	A	1.50
XB-1-22	.002	A	.65	XB-2-22	.002	A	1.25	XB-3-215	.0015	A	1.90
XB-1-225	.0025	A	.65	XB-2-225	.0025	A	1.40	XB-3-22	.002	B	2.00
XB-1-24	.004	B	.75	XB-2-23	.003	B	1.50	XB-3-23	.003	B	2.25
XB-1-25	.005	B	.85	XB-2-24	.004	B	1.50	XB-3-24	.004	B	2.50
XB-1-11	.01	B	1.25	XB-2-25	.005	B	1.75	XB-3-25	.005	B	2.75
XB-1-115	.015	B	1.50	XB-2-26	.006	B	1.75	XB-3-26	.006	B	2.90
XB-1-12	.02	B	1.75	XB-2-11	.01	B	2.50	XB-3-28	.008	B	3.00
XB-1-125	.025	B	2.25	XB-2-115	.015	B	3.00				

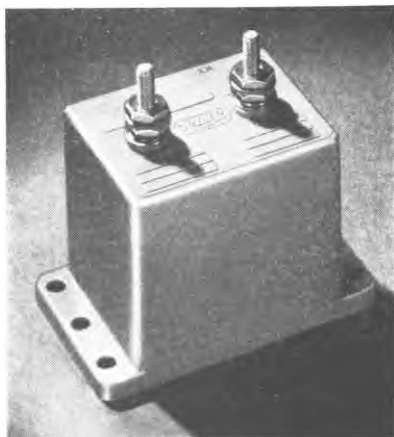


Body size type MHX
 1 1/4" x 3/4" x .265"
 Insulated Mtg. holes 1/4" centers

TYPE MHX WITH INSULATED MOUNTING HOLES

Catalog Number	Capacity Mfd.	D.C. Volts Test	List Price
MHX-1019	.00025	2000	\$.40
MHX-1022	.0005	2000	.40
MHX-1027	.001	1500	.40
MHX-1033	.002	1200	.50
MHX-1035	.003	1000	.55
MHX-1037	.004	1000	.55
MHX-1039	.005	1000	.55
MHX-1041	.006	750	.65
MHX-1049	.01	500	.75

Quality Above All!
DRY ELECTROLYTIC CONDENSERS
 ULTRA COMPACT TYPES



**TRANSMICA
 CAPACITORS**

1. High Q Characteristics
2. Low corona losses
3. Ample voltage protection
4. Solar clamp construction
5. Vacuum treated
6. Rust proofed metal parts



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XH

TYPE XH BAKELITE CASE CAPACITOR

Catalog Number	Capacity Mfd.	Voltage D.C.	A.C. Test Voltage	Maximum Amperes Operating			List Price
				3000 kc	1000 kc	300 kc	
XH8-45	.00005	8000	8000	1.50	.75	.5	\$18.00
XH8-31	.0001	8000	8000	3.25	1.75	1	18.00
XH8-325	.00025	8000	8000	7	4.5	2.0	25.00
XH8-35	.0005	8000	8000	8.5	6	3	25.00
XH8-21	.001	8000	8000	10	8.5	4.5	28.00
XH8-22	.002	8000	8000	11	11	7.5	28.00
XH8-23	.003	8000	8000	12	14	10	30.00
XH8-24	.004	8000	8000	12	14	10	32.00
XH8-25	.005	8000	8000	13	15	11	35.00
XH8-11	.01	8000	8000	16	20	15	40.00
XH6-12	.02	6000	6000	18	20	17	40.00
XH5-13	.03	5000	5000	20	20	18	40.00
XH4-15	.05	4000	4000	18	25	22	45.00
XH2-01	.1	2000	2000	18	25	22	35.00
XH1-02	.2	1000	1000	18	25	22	28.00
XH1-025	.25	1000	1000	18	25	22	32.00
XH.6-03	.3	600	600	18	25	22	32.00
XH.6-05	.5	600	600	18	25	22	38.00
XH.6-10	1.0	600	600	18	25	22	60.00

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XR

TYPE XR BAKELITE CASE CAPACITOR

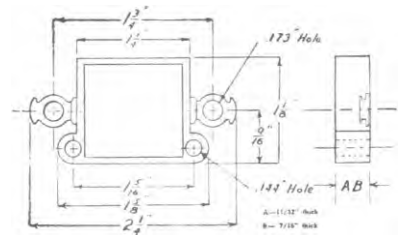
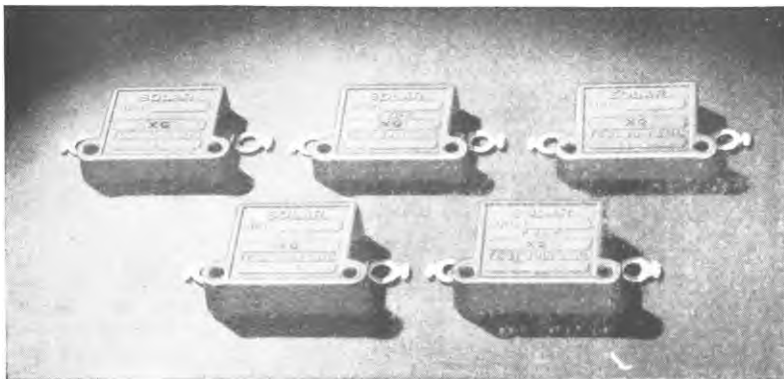
Catalog Number	Capacity Mfd.	Voltage D.C.	A.C. Test Voltage	Maximum Amperes Operating			List Price
				3000 kc	1000 kc	300 kc	
XR3-45	.00005	3000	3000	2	.6	.15	\$ 9.00
XR3-31	.0001	3000	3000	2.2	.8	.30	9.00
XR3-315	.00015	3000	3000	2.3	1.0	.45	9.00
XR3-32	.0002	3000	3000	3.0	1.2	.60	9.00
XR3-325	.00025	3000	3000	3.0	2.5	1.00	9.00
XR3-33	.0003	3000	3000	3.5	2.0	.8	9.00
XR3-34	.0004	3000	3000	4.0	2.0	.9	9.00
XR3-35	.0005	3000	3000	4.0	2.0	1.0	9.00
XR3-36	.0006	3000	3000	4.5	2.0	1.2	9.00
XR3-375	.00075	3000	3000	4.5	2.5	1.5	9.00
XR3-38	.0008	3000	3000	4.5	2.5	1.5	9.00
XR3-21	.001	3000	3000	5.0	3.0	1.6	9.00
XR3-2125	.0015	3000	3000	6.0	3.5	2.0	9.00
XR3-22	.002	3000	3000	6.5	4.0	2.5	9.00
XR2-225	.0025	2000	2000	6.5	4.0	2.5	9.00
XR2-2275	.00275	2000	2000	6.5	5.0	3.0	9.00
XR2-23	.003	2000	2000	7.5	5.0	3.0	9.00
XR2-24	.004	2000	2000	8.0	6.0	3.5	9.00
XR2-25	.005	2000	2000	8.5	6.5	4.0	9.00
XR2-26	.006	2000	2000	9.0	7.5	4.5	9.00
XR1.5-28	.008	1500	1500	10.0	8.0	5.0	9.00
XR1-11	.01	1000	1000	10.0	8.0	5.0	9.00
XR1-12	.02	1000	1000	11.0	10.0	7.0	9.50
XR.5-15	.05	500	500	11.0	10.0	8.0	9.50
XR.25-01	.1	250	250	11.0	12.0	10.0	10.00



Quality Above All!
TRANSMITTING CAPACITORS
 MICA TYPES

TYPE XQ HIGH VOLTAGE MICAS

BAKELITE MOLDED CAPACITORS WITH LUGS INSULATED MOUNTING EARS



Type XQ molded capacitors for coupling, blocking and r.f. by-pass applications contain the finest India Ruby Mica. They are specially impregnated and molded in either low-loss or standard Bakelite.

Type XQ.6—1200 v. D.C. test 600 v. operating

Number Catalog	Mfd. Capacity	Size	Price List
XQ.6-45	.00005	A	\$.50
XQ.6-31	.0001	A	.50
XQ.6-32	.0002	A	.50
XQ.6-325	.00025	A	.50
XQ.6-33	.0003	A	.50
XQ.6-34	.0004	A	.50
XQ.6-35	.0005	A	.50
XQ.6-21	.001	A	.50
XQ.6-215	.0015	A	.50
XQ.6-22	.002	A	.55
XQ.6-225	.0025	A	.65
XQ.6-23	.003	A	.70
XQ.6-24	.004	A	.70
XQ.6-25	.005	A	.70
XQ.6-26	.006	A	.85
XQ.6-27	.007	A	.95
XQ.6-28	.008	A	1.00
XQ.6-11	.01	A	1.15
XQ.6-115	.015	B	1.35
XQ.6-12	.02	B	1.55
XQ.6-125	.025	B	1.90
XQ.6-13	.03	B	2.10

Type XQ1.2—2500 v. D.C. test 1200 v. operating

Catalog Number	Capacity Mfd.	Size	Price List
XQ1.2-45	.00005	A	\$.70
XQ1.2-31	.0001	A	.70
XQ1.2-32	.0002	A	.70
XQ1.2-325	.00025	A	.70

Type XQ1.2—2500 v. D.C. test 1200 v. operating—Continued

Catalog Number	Capacity Mfd.	Size	Price List
XQ1.2-33	.0003	A	.70
XQ1.2-35	.0005	A	.70
XQ1.2-21	.001	A	.90
XQ1.2-215	.0015	A	1.15
XQ1.2-22	.002	A	1.35
XQ1.2-225	.0025	A	1.45
XQ1.2-23	.003	A	1.55
XQ1.2-24	.004	B	1.55
XQ1.2-25	.005	B	1.75
XQ1.2-26	.006	B	1.75
XQ1.2-28	.008	B	2.25
XQ1.2-11	.01	B	2.80

Type XQ2.5—5000 v. D.C. test 2500 v. operating

Catalog Number	Capacity Mfd.	Size	Price List
XQ2.5-45	.00005	A	\$.90
XQ2.5-31	.0001	A	.90
XQ2.5-32	.0002	A	1.05
XQ2.5-325	.00025	A	1.05
XQ2.5-33	.0003	A	1.10
XQ2.5-35	.0005	A	1.25
XQ2.5-21	.001	A	1.50
XQ2.5-215	.0015	A	1.95
XQ2.5-22	.002	B	2.25
XQ2.5-225	.0025	B	2.50
XQ2.5-23	.003	B	2.75
XQ2.5-24	.004	B	3.15
XQ2.5-25	.005	B	3.50

Type XQ Solar capacitors have high Q characteristics. They are vacuum heat treated for special stability. Standard capacity tolerance is $\pm 10\%$. Two sizes available.

Available in low-loss Bakelite at 25c additional to list.

Quality Above All!
CAPACITOR ANALYZERS



YOUR EYES AND THE MAGIC TUBE SEE ALL, KNOW ALL
Quick as a Wink



STANDARD MODEL CB
FIRST IN THE FIELD
STILL THE STANDARD

Capacity, power factor, leakage, resistance—directly on the panel. The highly-sensitive 6E5 Cathode-Ray tube is used for balancing. Dials are color-coded to match settings. A refined and extended Wien Bridge, built into instantly useful form for the laboratory, shop and field.

HERE IS WHY YOU WILL LIKE IT

1. **Measures Capacity** of electrolytic, paper, mica and air condensers. Range .00001 to 70.0 mfd.
2. **Measures Power Factor** of any standard electrolytic condenser, directly on a scale, in percentage.
3. **Measures Resistance**—directly in ohms, of resistors of all types. Range 50 to 2,000,000 ohms.
4. **Measures Insulation Resistance** of condensers and insulation. Tests are made at voltages up to 450 volts D.C., provided by built-in power supply.
5. **Detects Defective Condensers**—directly indicates leaky, shorted, wrong capacity units, and "intermittents."
6. **Is a Useful Continuity Meter**—for any circuits.
7. **Color-Coded Scales** mean fool-proof operation. 45 linear inches of scales mean accuracy.
8. **Direct Reading** of all measurements eliminates extra charts and annoyances.
9. **Cathode-Ray Tube Balancing**—the magic 6E5 tube gives sensitive visual balance "quick as a wink."
10. **Self-Contained—Compact—Portable.** Size 9½" x 7½" x 6¼". Weight 7 pounds.

TYPE CB-1-60
 110 Volts, 60 Cycles

List Price, less tubes.....\$32.00

TYPE C3-2-U
 110-220 Volts, 25-60 Cycles

List Price, less tubes.....\$40.00

Cat. No. List Price
 CBN Leakage Neon Tube.....\$1.00

SPECIAL MODEL CC
All Features of CB Model
PLUS

- High Capacity Scale • High Test Voltage
- Simplified Scales • Sloping Panel

HERE ARE 10 DE LUXE FEATURES

1. **Capacity**—measures capacity of electrolytic, paper, mica and air condensers including Motor Starting Condensers. Range .00001 to 800 mfd.
2. **Power Factor**—measures power factor of any standard electrolytic condenser, directly on a scale, in percentage. **These measurements include those of A.C. Electrolytics.**
3. **Resistance**—measures resistance directly in ohms, of resistors of all types. A long scale covering two ranges 50 to 2,000,000 ohms.
4. **Insulation**—measures insulation resistance of condensers and insulation. Tests are made at voltages up to 600 volts D.C. provided by built-in power supply.
5. **Detects Defective Condensers**—directly indicates leaky, shorted, wrong capacity units, and "intermittents." **Test voltages to 600 D.C. are available.**
6. **Is a Useful Continuity Meter**—for any circuits.
7. **Color-Coded Scales**—three unusually legible scales are provided, the outer (red) for capacity measurements to 70 mfd.; the center (black) for A.C. electrolytic capacities to 800 mfd.; the inner (blue) for resistance measurements.
8. **Simplified Reading**—the use of the open scales is quick and fool-proof, in connection with the multipliers marked on switch settings.
9. **Cathode-Ray Tube Balancing**—the magic 6E5 tube gives sensitive visual balance "quick as a wink."
10. **Self-Contained—Compact—Portable**—beautiful sloping panel. Size 9¾" x 8¼" x 6⅝". Weight 8 pounds.

TYPE CC-1-60
 110 Volts, 60 Cycles

List Price, less tubes.....\$41.50

TYPE CC-2-U
 110-220 Volts, 25-60 Cycles

List Price, less tubes.....\$50.00

Cat. No. List Price
 CBN Leakage Neon Tube.....\$1.00



Quality Above All!
CAPACITOR ANALYZERS

MODEL CE CAPACITOR EXAM-ETER

The Whole Condenser Story at a Glance

The only Condenser Analyzer on the market having all these features:



- **QUICK-CHECK DYNAMIC TEST FOR** Shorts; Opens; High R. F. Impedance; Intermittents.
- **CAPACITY BRIDGE**—Measures capacity from 10 mmfd. to 2000 mfd.
- **RESISTANCE BRIDGE**—Measures resistance from 50 ohms to 7.5 megohms.
- **MEGOHM METER**—Measures insulation resistance directly 2 to 10,000 megohms.
- **MILLIAMMETER**—Measures leakage to 50 milliamperes at 0-550 V. D. C.
- **POWER FACTOR**—Measurement to 50% P. F.
- **D. C. VACUUM TUBE VOLTMETER**—Measures D. C. Voltage 0-600 Volts.
- **A. C. VACUUM TUBE VOLTMETER**—Measures A. C. Voltage 0-30 V. A. C.
- **CONTINUOUSLY VARIABLE D. C. VOLTAGE SUPPLY**—Provides 0 to 550 V. D. C.
- **CONTINUITY CHECKER.**
- Tests **A. C. MOTOR STARTING CAPACITOR.**
- Tests **FENCE CONTROL CAPACITORS** to 2000 mfd.
- Gives the **WHOLE** Condenser Story at a Glance.

PRICE LIST

The CE Capacitor Exam-eter is sold complete with all tubes ready to operate. These are one 6L6 and two 6J5GT. Price includes tubes, test leads and instruction manual. Spare parts and carrying case are listed for replacement purposes.

CAPACITOR EXAM-ETERS

Catalog Number	Code Word	Description	Your Cost Complete with Tubes
CE-1-60	ANEXM	CE Capacitor Exam-eter for 110 V. 60 cycles	\$31.95
CE-2-U	ANAXL	CE Capacitor Exam-eter for 110-220 V. 25-60 cycles	34.75

SPARE PARTS AND ACCESSORIES

Catalog Number	Code Word	Description	Your Cost
CE-6L6	ANOLE	Tube type 6L6	\$1.30
QC-15G	QUJAG	Tube type 6J5GT	.75
QC-465	QULED	Test leads adjusted for oscillator circuit	.60
CE-300	CECAS	Carrying case for either CE-1-60 or CE-2-U	2.00
CE-465	CETST	Test prods and special leads for 0 to 10,000 V. D. C. Tests (not supplied as standard).	2.50

SOLAR CONDENSER QUICK-CHECK



Solar Quick-Checks, Models BQC and QC, spot short and open condensers and dry electrolytics with high RF impedance in dynamic check while set is operating. Model BQC also checks capacity on bridge circuit. Give all the Quick-Check features for those who already own a serviceable standard Capacitor Analyzer.



Model QC-1-60 Code Query—Solar Condenser Quick-Check, as illustrated, for operation on 110 volts, 60 cycles, complete with tubes and test leads, ready to use—Your cost \$11.85.

Model QC-2-U Code Qedap—Solar Condenser Quick-Check for operation on 110-220 volts, 50-60 cycles, complete with tubes and test leads, ready to use—Your cost \$15.50.

Model BQC-1-60 Code Qubik—Solar Condenser Quick-Check with Bridge, as illustrated, for operation on 110 volts, 60 cycles, complete with tubes and test leads, ready to use—Your cost \$15.75.

Model BQC-2-U Code Quniv—Solar Condenser Quick-Check with Bridge, for operation on 110-220 volts, 50-60 cycles, complete with tubes and test leads, ready to use—Your cost \$19.50. For accessories, see next column.

ACCESSORIES

For use with Model BQC or Model QC

Cat. No. QC-300 Code Qucas—Carrying case for either BQC or QC, sturdy and fitted with quality hardware. Covered with lizard-skin leatherette—Your cost \$2.25.

Cat. No. QC-450 Code Qurim—Rim for test bench mounting of either model BQC or QC. Permits easy mounting of complete instrument as a unit. Is both a handsome finishing rim and mounting support—Your cost \$1.50.

Cat. No. QC-465 Code Quled—Test Leads for either model BQC or QC, adjusted for oscillator circuit—Your cost \$3.60.

Both Models BQC and QC carry one each of the following tubes:

Cat. No.	Code Word	Tube Type	Your Cost
QC-6G5	Qutub	6G5/6U5	\$.90
QC-15G	Qujag	6J5GT	.75
QC-26G	Quzoh	25Z6GT	.75

Sangamo CONDENSERS

SANGAMO MICA CONDENSERS

Consistent accuracy—that is the assurance you obtain when Sangamo Mica Condensers are used. They have been the accepted standard for precision work for over a score of years. The best proof of their remarkable dependability is their extensive application by U. S. Gov-

ernment consulting engineers and by Navy, Aviation and Army designers for use with transmitting apparatus. Sangamo Condensers are rated accurately and conservatively. To experts, they are a "known" value needing no comparison with competitive advertising claims.



TYPE A CONDENSERS

Correct design, tested materials and precise manufacturing methods account for the high efficiency of Sangamo Type A Condensers. They are particularly adapted for use in small transmitters.

DIMENSIONS: Overall dimensions are as follows: 1.80" long, 1.40" wide. Actual thickness of Type A unit is .60" without screws. Note special thickness on sizes marked with asterisk.

TYPE A-10 1000 V. DC TEST

Capacity, mfd.	Code	List
.00005	Dance	.40
.0001	Daffy	.40
.00015	Dagon	.40
.0002	Daily	.40
.00025	Dairy	.40
.0005	Daisy	.40
.001	Dally	.50
.0015	Dense	.50
.002	Dandy	.50
.003	Datum	.60
.004	Dauby	.60
.005	Dealt	.70
.006	Deary	.85
.008	Debar	1.00
.01	Debit	1.15
.012	Debut	1.20
.015	Decay	1.25
.02	Defer	1.85
.025*	Delay	2.30
.03*	Delta	2.50
.04*	Demit	3.25
.05*	Denot	3.85
Resistor Clips—pair		.10

TYPE A-25 2500 V. DC TEST

Capacity, mfd.	Code	List
.00005	Eager	.70
.0001	Eagle	.70
.00015	Early	.70
.0002	Earth	.70
.00025	Easel	.70
.0005	Eaves	.70
.001	Ebony	.90
.0015	Eclat	1.15
.002	Edict	1.35
.003	Edify	1.55
.004	Educe	1.55
.005	Egret	1.75
.006	Elder	1.75
.008	Eject	2.25
.01	Elate	2.80
.015*	Elder	3.35
.02*	Elect	3.95
.025*	Elope	4.40

TYPE A-50 5000 V. DC TEST

Capacity, mfd.	Code	List
.00005	Facet	.90
.0001	Fagot	.90
.00015	Faint	1.00
.0002	Fairy	1.05
.00025	Faith	1.05
.0005	Fancy	1.25
.001	Feaze	1.50
.0015	Focal	1.95
.002	Felly	2.25
.003*	Fence	2.75
.004*	Ferro	3.15
.005*	Fetch	3.30
.006*	Fever	3.50
.008*	Field	3.80
.01*	Filmy	4.10

NOTE: Type A-25 and Type A-50 can be supplied with insulated mounting at no additional cost. Type A-10 at 10c list additional. All rating can be furnished in Low Loss bakelite at additional cost of 10c list.

* Furnished in .90" without screw thickness dimension.

Above listings are guaranteed to be within 10% of rated capacity. For accuracy within + or - 5%, increase the list price 10%. For accuracy within + or - 2%, increase the list price 20%.

TYPE E PORCELAIN CASE CONDENSERS

Sangamo Type E is a high voltage heavy current-carrying mica condenser. It is constructed in accordance with the requirements of the important functions it must perform. The finest grade of mica is used. All units are painstakingly assembled. Hygroscopic absorption is prevented by sealing assembly hermetically in a glazed porcelain container. Sturdy terminals and mounting feet are provided. Capacity remains constant under all load conditions. Power loss due to dielectric absorption is at a minimum.

DIMENSIONS:

Sangamo Type E condensers measure overall 4-1/16" wide, 2 1/8" thick, 3-23/32" high. Distance between mounting hole centers 3 1/4".



Capacity, mfd.	Max. DC Volts	Code	List
.00005	7,000	Pacer	3.75
.00005	12,500	Pachy	3.75
.0001	7,000	Paddy	3.75
.0001	12,500	Pagan	3.75
.00025	7,000	Pager	3.75
.00025	12,500	Pagod	3.75
.0005	7,000	Paint	3.75
.0005	12,500	Paled	4.25
.001	3,500	Palle	3.75
.001	7,000	Palot	4.25
.001	12,500	Palex	5.00
.0015	3,500	Panel	4.00
.0015	7,000	Panne	4.75
.0015	12,500	Pansy	5.50
.002	3,500	Panto	4.25
.002	7,000	Param	5.25
.002	12,500	Parcy	6.50
.003	3,500	Pargo	5.00
.003	7,000	Parka	6.00

Capacity, mfd.	Max. DC Volts	Code	List
.003	10,000	Parot	8.00
.004	3,500	Patch	5.50
.004	7,000	Pated	7.50
.004	10,000	Patio	9.00
.005	3,500	Pause	6.00
.005	7,000	Pavis	7.00
.005	10,000	Pearl	9.50
.01	3,500	Pease	7.00
.01	7,000	Pedro	9.50
.02	2,000	Pelta	7.00
.02	3,500	Pento	8.75
.05	2,000	Perch	9.75
.05	3,500	Petra	11.50
0.1	2,000	Perot	11.50

An air free sealed unit is obtained by vacuum impregnating with a special low loss wax during the evacuating process. Recommended for: Amateur installations, in tank circuits, as antenna coupling capacitors, as plate blocking condensers, as grid stopping units, etc.

Sangamo CONDENSERS

Type C and D Condensers

Small size at no sacrifice in accuracy is the advantage.

Dimensions: Type C .75" by .75" by .25" thick.



TYPE C

Cap., mfd.*	Code	List
.00004	Japol	\$.15
.00005	Jacal	.15
.00007	Jaboe	.15
.000075	Jabex	.15
.0001	Jalap	.15
.00015	Jalex	.20
.0002	Jalor	.20
.00025	Jaunt	.20
.00035	Janex	.20
.0005	Jenny	.20
.001	Jiffy	.25
.0015	Joule	.30
.002	Jingo	.35
.0025	Joist	.40
.003	Jolly	.40
.004	Joule	.45
.005	Joust	.55
.006	Jumbo	.60

* 500 Volts DC working.



Dimensions: Type D .625" by .625" by .20" thick.

TYPE D

Cap., mfd.*	Code	List
.00004	Karbi	\$.15
.00005	Karen	.15
.00007	Karma	.15
.000075	Karou	.15
.0001	Karyo	.15
.00015	Kauri	.20
.0002	Kayak	.20
.00025	Kedge	.20
.00035	Keena	.20
.0005	Keeve	.20

* 500 Volts DC working.

K-36

Type B Condensers

Precisely rated, equipped with strong soldering lug terminals.

Dimensions: .72" wide, .25" thick.



TYPE B-10

Cap., mfd.*	Code	List
.00005	Habit	\$.25
.00007	Habor	.25
.000075	Haben	.25
.0001	Hairy	.25
.0002	Haply	.25
.00025	Harem	.25
.00035	Hadex	.25
.0005	Harpy	.25
.001	Harsh	.30
.0015	Hatch	.30
.002	Haven	.35
.0025	Havor	.35
.003	Hazel	.40
.004	Heady	.45
.005	Helio	.45
.006	Hepta	.55
.008	Hermo	.60
.01	Heron	.70

* 1000 Volt DC Test 600 Volts DC working.

TYPE B-25

Cap., mfd.*	Code	List
.00005	Mango	\$.50
.00007	Manor	.50
.000075	Manse	.50
.0001	Maple	.50
.0002	Marge	.50
.00025	Marex	.50
.00035	Marsh	.50
.0005	Masto	.50
.001	Matsu	.60
.002	Mavis	.75

* 2500 Volt DC Test 1250 Volts DC working.

Type BE Condensers

Mountable in any position. Remain at their original capacity.

Dimensions: 1.012" wide, .25" thick.



TYPE BE-10

Cap., mfd.*	Code	List
.00005	Lacol	\$.35
.00007	Lacet	.35
.000075	Lacto	.35
.0001	Laden	.35
.0002	Laemo	.35
.00025	Lagon	.35
.00035	Lalox	.35
.0005	Lambo	.35
.001	Lanor	.40
.0015	Lapro	.45
.002	Larot	.45
.0025	Lasso	.50
.003	Laten	.55
.004	Latus	.55
.005	Lawny	.55
.006	Ledox	.65
.008	Ledro	.75
.01	Legat	.80

* 1000 Volt DC Test 600 Volts DC working.

TYPE BE-50

Cap., mfd.*	Code	List
.00005	Oadal	\$.60
.0001	Oaken	.60
.00025	Oblat	.70
.0005	Ochre	.85
.001	Ocule	1.00
.002	Oglex	1.50

* 5000 Volt DC Test 2500 Volts DC working.

AEROVOX

EXACT DUPLICATE Replacement Condensers

Having pioneered the Exact-Duplicate idea for years, AEROVOX is happy indeed to have it universally accepted today. And doubly so because, having refused to take the easier way of so-called general-utility types, and sometimes called "Universal" replacements, AEROVOX has built up a really complete line backed by the most extensive listings in use.

FIT Right! . . .

Because exact needs of standard sets in use have been critically studied, AEROVOX Exact-Replacement units readily fit in place of the original condensers. No jamming. No taping. No sloppy wiring. Saves time and trouble.

WORK Right! . . .

Because electrical as well as mechanical considerations have received thorough attention, AEROVOX replacements not only duplicate but usually excel the performance of the replaced units.

LOOK Right! . . .

Last but not least, an AEROVOX replacement restores the radio chassis to its original "new" status. Set owner is satisfied the job has been done right.



EXACT-DUPLICATE PAPER-WOUND REPLACEMENT CONDENSERS



Atwater-Kent



Spartan

These units are the finest replacement condensers obtainable, embodying AEROVOX high quality construction throughout.

They are carefully engineered and built to give long lasting service in the sets for which they are designed.

	Cap.	List	Net
	Mfds.	Price	Price
ATWATER-KENT			
37 Filter	.5	\$0.90	\$0.54
37 Bypass	.25-.25-.25	1.35	.81
37 Block		9.00	5.40
SPARTON			
5031	.5	400	\$0.90 \$0.54
5032	1.	200	.90 .54
5033	.25	600	.90 .54

CROSLLEY	Cap.	List	Net
Part No.	Mfds.	Price	Price
W4013B	1.	\$0.85	\$0.51
W4232B	.5-.5	1.05	.63
W4233	.5	.65	.39
W4313B	.5	.65	.39
W4381	.08-.06	.75	.45
W4381B	1.-1	.80	.48
W4919	.5	.80	.48
W4968	.5	.65	.39
W5862	1.-1.	1.70	1.02
W5863	.5-.5	1.65	.99
W5943	.1	.60	.36
W6428	.5-.5	1.05	.63
W6471	.1	.55	.33
W7753B	1.-5-1	1.25	.75
W20186	.3-.25-.25	1.25	.75
W20187	.1	.60	.36
W20188	.1	.60	.36
W20446A	1.-5-1	1.25	.75
W20447	.1	.60	.36
W20448	.1	.55	.33
W20449	.5-1	.85	.51
W22412	1.-1.-1.-1	1.15	.69
W22815	1.-5	.90	.54
W22995	1.-5	.90	.54
W23736	.5-.25-.25	1.25	.75
W24333	.5-.5	1.05	.63
W27204	.02-.02	.35	.21

GENERAL MOTORS	Cap.	List	Net
Part No.	Mfds.	Price	Price
1204221	1.166	\$2.00	\$1.20
1204757	1.-1.-1.-1	1.50	.90
1208155	1.0-3.0	4.00	2.40
1206397	1.-1	.65	.39
1206834	.5-1-1	1.20	.72
1207239	1.0	.90	.54

TUBULAR CARDBOARD REPLACEMENTS

A line of handy universal replacement electrolytics in cardboard tubes, with two spade lugs for mounting and separate wire leads for each section. Inexpensive. Attractive in appearance. Popular as general-utility replacements.



A-C D-C REPLACEMENTS

				List Price	Net Price
88	Spade Lug Type	8-8	450	① 1 1/4 x 3 3/4	\$1.35 \$0.81
1216	Spade Lug Type	12-16	200	① 1 3/8 x 2 3/4	1.55 .93
816	Spade Lug Type	8-16	450	① 1 3/8 x 4 1/4	1.65 .99
148	Spade Lug Type	14-8x10-10	200x25	① 1 3/8 x 4 1/4	2.05 1.23
168	Spade Lug Type	16-8x10-10	200x25	① 1 3/8 x 3 3/4	2.05 1.23
1612	Spade Lug Type	16-12x10-10	200x25	① 1 3/8 x 4 1/4	2.15 1.29
2020	Spade Lug Type	20-20	200	① 1 3/8 x 4 1/4	2.25 1.36
1212		12-12x5-5	200x25	① 1 x 1 3/8 x 2 3/4	1.95 1.17
				(Same as Bosch Part CE-9520)	
88855		8-8x5-5	200x25	① 1 1/4 x 1 1/2 x 3	2.50 1.50
16168		16-16-8x5-5	150x25	① 1 1/2 x 1 1/4 x 3	2.45 1.47
8820		8-8-20	200	① 1 3/8 x 1 3/4 x 2 1/8	2.10 1.26

Type Container—① Cardboard Box; ② Rectangular Can; ③ Universal Can; ④ Inverted Can; ⑤ Inverted Can (Wet); ⑥ Cartridge; ⑦ Inverted Can (Insulated Cover); ⑧ Cardboard Tube; ⑨ Cardboard Tube (Spade Lug Mounting); ⑩ Metal Can; ⑪ Round Can Special.

AEROVOX

EXACT DUPLICATE

Replacement Condensers

INSIST UPON GETTING GENUINE AEROVOX EXACT DUPLICATE ELECTROLYTIC REPLACEMENT CONDENSERS

When you MUST use identical replacements, simply remember to ask for AEROVOX EXACT DUPLICATE REPLACEMENTS. Designed specifically for most all standard sets . . . finest replacement units obtainable . . . embodying AEROVOX high-quality construction throughout.



Model of Set	Part No.	Cap. Mfd.	D.C. Work Voltage	Size—Inches	List Price	Net Price
AIR KING						
15, 16, 21, 22, 26, 29, 42, 48, 81, 221, 222, 250, 522, 609	10105	10-10-5	150	① 1x1 1/2x3	\$1.70	\$1.02
ANSLEY						
		16-16-16	200	② 1 3/8x4 1/4	1.90	1.14
ATWATER KENT						
155 (1 & 2)	24602	8-8-8	150	① 1 1/8x1 1/8x3 1/4	1.65	.99
155 (3)	24955	8-8-8	150	① 1 1/8x1 1/8x3 1/4	1.65	.99
275, 825	26158	8-14-8	100	② 1 1/4x1 1/8x3 3/4	1.95	1.17
376	27592	4-8-10	450-450-25	③ 1 3/8x4 1/4	1.90	1.14
ALL STAR JUNIOR						
	PM5-444	4-4-4	450	① 1 1/8x1 1/8x4 1/8	1.75	1.05
BOSCH						
117, 127, (new) 360-375, 440-470 (old)	CE954	4-8x20	450-450-25	④ 1 3/8x4 3/4	2.10	1.26
	1C5237					
04	CE9520	12-12.5-5	200x25	① 1x1 3/8x2 3/4	1.95	1.17
350, 500						
501, 502	SA-105772	4-12-8x4	200x25	① 1 3/8x1 7/8x2 3/8	2.15	1.29
310A	SA-104422	8-8x4	475x300	② 1 3/8x2 1/4x4 3/8	3.00	1.80
250, 251	SA-1C3950	8-8x4-4	450-450x450x300	② 1 3/8x2 1/4x4 3/8	2.75	1.65
139, Types H. L. HT. LT. HC. LC. HTC. LTC	CE-9510 early CE-9510 later	4-4	350	③ 1 3/8x1 1/2 ③ 1 3/8x2 1/4	1.15 1.15	.69 .69
BELMONT						
(Freshman) 545	C-525-B	5-25-5	100	① 1 3/8x1 3/4x2 3/8	1.60	.96
	103-4	16	500	③ 1 3/8x4 (Standard AeroVox Type PG500-16)	1.35	.81
	103-6	8	500	③ 1 3/8x3 1/2 (Standard AeroVox Type PG500-8)	.95	.57
	103-7	8	350	③ 1 3/8x3 1/2 (Standard AeroVox Type PG350-8)	.90	.54
	103-8	16	500	③ 1 3/8x4 (Standard AeroVox Type PG500-16)	1.35	.81
425	A11093-1	5-25-5	200	① 7/8x2 3/8x2 1/2	1.95	1.17
Same as Sparton part No. A11093-1 for Models 65, 65T, 66, 66T, 506						
505A Series	119-24B	5-5	200	① 1 1/4x3 1/4	.90	.54
650	C525C	5-25	100	① 1 1/8x1 3/8x2 3/8	1.25	.75
CLARION (TCA)						
G422	P4717	16-4	150	① 1 1/8x1 3/8x2 3/4	1.10	.66
COLONIAL						
122, 125	R-8730-C	8-4	300-150	① 2 5/8x1 3/4x1 7/8	1.05	.63
	D-4758-P	8	500	③ 1 3/8x3 1/2 (Standard AeroVox Type PG500-8)	.95	.57
	R-7236	16	500	③ 1 3/8x4 (Standard AeroVox Type PG500-16)	1.35	.81
	R-12451	8	350	③ 1 3/8x3 1/2 (Standard AeroVox Type PG350-8)	.90	.54
	R-12478	16	500	③ 1 3/8x4 (Standard AeroVox Type PG500-16)	1.35	.81
250	R-8053	8x8x8	200	① 1 1/8x1 1/8x2 3/8	1.90	1.14
1850, 1851	R-10673	6-6x25	150x25	① 1 1/8x1 1/8x2 3/8	1.50	.90
1862 (Sears Roebuck)						
CROSLLEY						
122, 152	W-23801	6-8	450	① 2 1/4x1 5/8x4 1/4 (Standard AeroVox Type P450-6-8)	1.45	.87

Model of Set	Part No.	Cap. Mfd.	D.C. Work Voltage	Size—Inches	List Price	Net Price
CROSLLEY—Continued						
93, 163	W25857B	8-8	200-25	① 1 1/8x1 1/8x2 1/4	\$1.00	\$0.60
129-1, 130, 131-1 132-1	W26119	8-4	150-300	① 1 1/8x1 1/8x2 3/8	1.05	.63
132-1, 146	W26194B	12	475	④ 1 3/8x4 1/4	2.05	1.23
96, 150, 155, 163	W26870	10	25	⑥ 5/8x2 3/8	.45	.27
146	W26895	12-6	300-25	① 4 1/8x1 3/8x5/8	1.35	.81
145, 167	W27488A	8-6	25-300	① 1 1/8x1 1/8x2 1/4	.95	.57
147	W27677A	8-8	100	① 1x1x2 1/4	.75	.45
163, 400, 402	W28068	12	200	① 1 1/8x1 1/8x2 1/4	.80	.48
160	W28468	8-12	353-475	④ 1 3/8x5 1/4	2.25	1.35
164, 170, 171	W29097B	8-8-8	450-450-250	④ 1 3/8x5 1/4	2.15	1.29
109	W29150B	6-7-8	450-450-25	④ 1 3/8x4 3/4	1.90	1.08
166, 172	W29264A	16-16-8	125-100-20	⑦ 1 3/8x3 1/4	2.03	1.20
174	W29804A	8-16-16	150	④ 1 3/8x5 1/4	1.85	1.11
102, 103	W29808	12	300	③ 1 3/8x2 3/4	.95	.57
129, 134, 135, 137, 141, 150, 158	B30017	4-8	450	④ 1 3/8x4 1/4	1.30	.78
129-1, 130-1, 132, 136-1, 157	B30018	8-8	450	③ 1 3/8x5 1/4	1.40	.84
175	W30059A	8-8-8	450-250-450	④ 1 3/8x6 3/8	1.95	1.17
173, 173-5	W30124	16-16-8	100-125-125	⑦ 1 3/8x4 1/4	1.85	1.11
132	W30419	8-8	20-250	⑦ 1x3 3/8	1.00	.60
182	W30962	8-25	125	① 1 1/8x1 1/8x3 1/2	1.45	.87
(Same as United Motors condenser part A-443341 for Model 4052)						
175	W32374	8-8-8	450-250-450	④ 1 3/8x6 3/8 (Same as Crosley W-30059A)	1.95	1.17
555, 915, 1055, 1155, 6015, 6625	W36057	40	350	⑤ 1 1/2x4 (Standard AeroVox Type PG350-40)	1.80	1.08
555, 713, 725, 855, 865, 915, 955, 1055, 6625	W36055	30	500	⑤ 1 1/2x4 1/2 (Standard AeroVox Type PG500-30)	1.70	1.02
DETROLA						
1460	J-312	4-8-20	150	① 1 1/4x1 3/4x3 3/8	1.65	.99
	J-312	8-8-8-4	150	① 1 1/8x1 3/8x3 1/4	1.80	1.08
ERLA						
2272		8-20	150	① 1 3/8x1 3/8x2 1/2	1.20	.72
9442		4-10x7-7	150	① 1 5/8x1 1/8x3 3/8	2.00	1.20
9982		8-20-8	150	① 1 1/4x1 1/8x2 3/8	1.65	.99
EMERSON						
20A, 25, 25A	G4	HC-31	4-4	200	① 1x1x2 5/8	\$0.90 \$0.54
20A, 25, 25A	G4	HC-32	5-5	35	① 7/8x1x1 1/2	.75 .45
250	H5	KC-56	8-8	200	① 1x1 1/2x3	1.15 .69
250W	H5S	KC-68	4-8-16	175	① 1x1 1/8x4	1.80 1.08
32	U5S	GCC-137	8-16x5-5	150-25	① 1x1 1/8x4	2.05 1.23
19	UV4	KKC-143	12-8	150	① 1 1/8x1 3/8x2 3/8	1.25 .75
31B5	UV5	UUC-179	12-8x5-5	150-25	① 1x1 1/8x4	1.95 1.17
	U6A	ZCC-192A	4-8-16	150	② 1x2 1/4x3 3/4	1.90 1.14
	U6B	ZCC-194	8-16	150	② 3/4x2 1/8x3 1/2	1.45 .87
108, 110	U5A	ZCC-203	8-16	150	① 1x2x2 3/8	1.35 .81
106	U6B	ZCC-222	12-12	150	② 3/4x2 1/8x3 1/2	1.75 1.05
38	U6D-U6	GCC-125C	4-8-16	150	④ 1 3/8x3 1/4	1.90 1.14

Type Container—① Cardboard Box; ② Rectangular Can; ③ Universal Can; ④ Inverted Can; ⑤ Inverted Can (Wet); ⑥ Cartridge; ⑦ Inverted Can (Insulated Cover); ⑧ Cardboard Tube; ⑨ Cardboard Tube (Spade Lug Mounting); (10) Metal Can; (11) Round Can Special.

AEROVOX

EXACT DUPLICATE

Replacement Condensers

EMERSON—Continued	Cap.	D.C. Work.	Size—	List	Net	
Chassis No. Part No.	Mfd.	Voltage	Inches	Price	Price	
409, 410, 411 (Mickey Mouse)	U4B	2WC-239	8-5x5	150-25	① 1½x ¾x2½	\$1.45 \$0.87
Mod. 45	6BD	EEC-129	8-8-4	150	④ 1½x4¼	1.50 .90
107	U6F	2LC-224	16-4-8	150	④ 1½x4	1.85 1.11
965		ZC-123	6-10	350	① 1½x1½x2½	1.40 .84
BA-199		4DC-345	16-16	150	⑧ 1x3½	1.40 .84
375	W6	TC-89	4x12x16	150	① 1x1½x3	1.70 1.02
36		TTC-159	6-8-12	450-450-25	④ 1½x4½	2.25 1.35
	AX-211	4HC-348B	20-20	150	④ ¾x2½	1.15 .69

Model of Set	Part No.	Cap. Mfd.	D.C. Work. Voltage	Size— Inches	List Price	Net Price
FADA						
RN	4-1362-MS	8-16	200	③ 1½x3¼	\$1.45	\$0.87
	4-1380-MS	8-8	250	③ 1 x4¾	1.20	.72
RU	4-1450-MS	8-8-16	250-150-250	④ 1½x4¾	1.95	1.17
	4-1451-MS	8	150	④ 1½x3¼	.65	.39

GALVIN (See Motorola)

GE Models	RCA Models	Part No.	Cap. Mfd.	D.C. Work. Voltage	Size— Inches	List Price	Net Price
G. E. and RCA-VICTOR							
K40	R27, R17M, R18W, M105, 330, 331	3536 (new), 66140-2 (old)	5-5	35	④ ¾x2½	.75	.46
K40A	R27, R17, R18W	3538 (new), 66140 (old)	4-4	200	⑥ ¾x3½	.95	.57
K60, K65, K63	R37, R38, R37P, R38P, 120	6487 (new), 66155 (old)	4-4-10-4	300-300-150-25	① 1½x1½x3¾	2.05	1.23
B52	M34, M1C5	6492 (new), 66140-4 (old)	3.6-1	100-200	⑥ ¾x2½	.80	.48
L50	R22	6511 (new), 66180-2 (old)	8-4-10	150-100-25	① 1½x1½x3¾	1.30	.78
L50	R22	6518 (new), 66160 (old)	8-8	250-175	① 1½x1½x3½	1.15	.69
K40A	R18W	6535	4-4	150-300	⑥ 1x3½	.90	.54
K78, K79	330, 331	6555 (new), 66143-2 (old)	10-4	300-150	① 1½x1½x3¾	1.20	.72
C-30, K43	100, 101, 103, T-48, T-49	6661 (new), 66185-2 (old)	8-8-5-5	450-450-50-50	① 1½x1½x4½	2.20	1.32
K66, K66N	220, 222	6691 (new), 66189-2 (old)	8-4-4-4	350-150-300-25	① 1½x1½x3¾	2.05	1.23
K64, M65, M68	121, 122, 321	6703 (new), 66189-1 (old)	8-4-4	350-150-300	① 1½x1½x3¾	1.65	.99
L53	114	6783 (new), 66171-1 (old)	8x8x8	200-200-250-25	① 1½x2½x3¾	3.60	2.16

K52, K53, K58	R28, R28P, R28BW, RE40, RE40P, T5-2, 110, 111, 115, 117, 118, 119, 128, 128E, 210, 211, 224E, 226, 310	7589 (new), 66143 (old)	4-4	150-450	① 1x1½x3¾	1.05	.63
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	C6-2, C7-6, C8-15, C9-17, C9-4, C9-6, C11-1, C13-2, C16-3, D7-7, D9-19, D11-2, D22-1, T6-1, T6-9, T7-5, T8-14, T8-16, T9-9	5512 (new), 68597-3 (old)	20	350	③ 1½x3½	1.40	.84
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(Standard Aerovox Type PG350-20)

GE Mods.	RCA Models	Part No.	Cap. Mfd.	D.C. Work. Voltage	Size— Inches	List Price	Net Price
	C6-2, C8-15, C8-17, C9-4, C9-6, D7-7, D9-19, T6-1, T6-9, T7-5, T8-14, T8-16, T9-9	11240 (new), 68597-5 (old)	12	500	③ 1½x3½	\$1.15	\$0.69

(Standard Aerovox Type PG500-12)

	C11-1, C13-2, C14-3, D11-2, D22-1	11203 (new), 68597-6 (old)	12	500	③ 1½x3½	1.15	.69
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(Standard Aerovox Type PG500-12)

		66122-2	4-4	250	① 1½x1½x2½	.90	.54
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Model of Set	Part No.	Cap. Mfd.	D.C. Work. Voltage	Size— Inches	List Price	Net Price	
GENERAL ELECTRIC (See also G. E. and RCA-VICTOR)							
F63-F65	K12J6	12-8	450	④ 1½x4¼	1.55	.93	
F70-F75	K12J11	12-8-8-10	450-450-350-25	③ 1½x5½	2.20	1.32	
A63-A65	RC507	4-8x4	25-25x450	① 1½x1½x2½	1.15	.69	

Model of Set	Part No.	Cap. Mfd.	D.C. Work. Voltage	Size— Inches	List Price	Net Price	
GENERAL MOTORS							
	1203346	4-4	450	④ 1½x5½	1.40	.84	

Model of Set	Part No.	Cap. Mfd.	D.C. Work. Voltage	Size— Inches	List Price	Net Price	
GRUNOW							
501, 550							
Chassis 5B	27151	4-8-20-4	25-150-150-150	① 1½x2½x1½	2.20	1.32	
670, 671							
Chassis 6D	30091-1	8-8x8x12-12	450-475-25	① 1½x2½x2¼	3.20	1.82	
625	34119-6	5-5x10-10	50-350	① 1x2½x3¼	2.35	1.41	
	30326	8-8-12	350-350-25	① 1½x1½x2½	1.80	1.08	

Model of Set	Part No.	Cap. Mfd.	D.C. Work. Voltage	Size— Inches	List Price	Net Price	
INTERNATIONAL							
	A-407	4-4	150	① ¾x1x3	.85	.51	
Kadette (Standard)	A-408	5-5	35	① ¾x ¾x1½	.75	.45	
ES19, ES20, ES25, ES30, 60, 65, 80, 85	A-412	8-30	150	① ¾x1½x3½	1.55	.93	
40, 41, 42, 46	A-421	3.5-3.5-3.5	150-150-25	① ½x1¼x2¾	1.30	.78	

Kadette A and B (A-430) (A-428)	A-424	4-10-10	150	① 1 x1½x3½	1.65	.99
	A-426	2-7	100	① ½x1½x2¼	.95	.57
	A-427	3.5-3.5-3.5	100-100-25	① ½x1¼x2¼	1.20	.72
A and B	A-425	10-10-4	150	① 1½x ¾x2¼	1.55	.93
66, 66X	A-422 (old), A-443 (new)	9-30	150	② 1½x3¾	1.15	.69

Kadette A and B A-424 A-428	A-430	4-10-10	150	① 1 x1½x3½	1.65	.99
1019	A-468	8-8x8-8	150x250	② 1½x3¾	2.30	1.38

Model of Set	Part No.	Cap. Mfd.	D.C. Work. Voltage	Size— Inches	List Price	Net Price	
LE WOL							
LW4		25-10	150	(10) 1x2x3¼	1.40	.84	
		4-4-4	150	(10) 1½x1½x3½	1.30	.78	

Model of Set	Part No.	Cap. Mfd.	D.C. Work. Voltage	Size— Inches	List Price	Net Price	
MAJESTIC							
211, 214, 215, 221, 223, 251-B, 253-B, 254-B, 351, 353	4713	8	450	① 1½x1½x4½	.95	.57	
151, 153, 154, 155, 156, 251, 253, 254	5414	8	450	① 1½x1½x4½	.80	.48	
201, 203, 204	6277	8-4-4	450	② 1½x2½x4½	2.00	1.20	
11	6433	4-8	450	② 1½x1½x4½	1.25	.75	
56, 57, 58	6501	8-8	450	② 1x3¼x4	1.40	.84	
291, 293, 294	7173	8	450	① ¾x1½x4½	.80	.48	
291, 293, 294	7278	7-10	150-6	① 1½x1¼x2¼	1.00	.60	

Type Container—① Cardboard Box; ② Rectangular Can; ③ Universal Can; ④ Inverted Can; ⑤ Inverted Can (Wet); ⑥ Cartridge; ⑦ Inverted Can (Insulated Cover); ⑧ Cardboard Tube; ⑨ Cardboard Tube (Spade Lug Mounting); (10) Metal Can; (11) Round Can Special.

AEROVOX EXACT DUPLICATE Replacement Condensers

Model of Set	Part No.	Cap. Mfd.	D.C. Work Voltage	Size—Inches	List Price	Net Price
MAJESTIC—Continued						
324	7402	10	6	⑥ 5/8x2 1/4	\$0.45	\$0.27
303, 304, 307, 324	7489	16	450	① 1 1/8x1 1/8x4 1/8	1.15	.69
311, 314, 315	7824	8-16	300-450	① 1 1/8x1 1/8x4 1/8	1.55	.93
324, 344, 363	7988	7	150	① 1 1/8x1 1/8x2 3/8	.60	.36
311, 314, 315, 331, 336-77, 344, 363, 393	8118	20	30	① 1 1/8x1 1/8x2 3/8	.60	.36
Chassis 114 Auto	8286	5	6	⑥ 5/8x2 1/4	.45	.27
15, 153, 154, 155, 156	8385	8-8	450	② 1 1/8x2 1/8x4 1/8	1.40	.84
77, 331, 336	8721	16	450	⑥ 1 3/8x4	1.25	.75
331, 336-77, 344, 393, 8722	8	8	450	⑥ 1 3/8x3 1/2	.85	.51
381	8755	4-8	450	① 1 3/8x1 3/8x4 1/8	1.25	.75
381	8774	10	25	⑥ 5/8x2 1/4	.45	.27
344, 363	9019	10	25	① 1 1/8x1 1/8x2 3/8	.45	.27
371, 373	9219	8-8	450	① 1 1/8x1 1/8x4 1/8	1.35	.81
411, 411A, 413, 413A	9661	8-10-16	150-25-150	① 1 1/4x1 1/2x4	1.80	1.08
66X Chassis 116A Auto	9979	8-8	350	① 1 3/8x1 3/8x3 1/4	1.40	.84
118	10369	8-8	400	① 1 1/8x1 1/8x3 1/4	1.35	.81
40, 49, 194 Chassis 440	10536	10-4-6	25-300-350	① 1 1/4x1 3/8x4 1/8	1.70	1.02
55, 59, 75, 195, 560, 556 Chassis 500	10827	10-8-8	25-350-350	① 1 1/2x1 3/8x5 3/8	1.85	1.11
77, 331, 336, Chassis 330	8721	16	450	⑥ 1 3/8x4 1/4	1.55	.93
MONTGOMERY WARD (Air Line Radio)						
62-96, 86944-A (old)	4-12-16	150	① 1 3/8x1 3/8x2 3/8	1.65	.99	
62-98, 86944-E (new)	4-12-16	150	① 1 3/8x1 3/8x3	1.65	.99	
(Same as Wells Gardner condenser for Model 05A, 05B, 05AA, 05BA)						
MOTOROLA (Galvin)						
100	1388	8-8x25	350x25	① 1 3/8x1 3/8x2 3/8	2.00	1.20
75 (Early)	1465	6-6	350	① 1x1 1/2x2 3/4	1.15	.69
75 (Later)	1468	6-4x6	200x12	① 1x1 1/2x2 3/4	1.40	.84
60, 80	2185	8-8x25	300x25	① 1 3/8x3 1/4	1.80	1.08
34	34	3-6-10	200-200-12.5	① 1x1 1/4x4 5/8	1.40	.84
34	8426	4-8x5	350x200	① 1 1/8x1 1/8x2 1/2	1.70	1.02
44	8123	8-12	200	① 1 1/4x2 1/4x2 3/8	1.25	.75
44, 66, 77A	4-8200	4-8	200	① 1 3/8x1 3/8x2 1/4	1.05	.63
57 (Early)	1424	2-4	250	① 2x1 3/8x1 1/8	1.10	.68
57 (Later)	1540	3-5x6	200x25	① 1 1/8x1 1/4x1 3/8	1.35	.81
Dual 6 & Dual 8	8825	8-8-25	350-350-25	① 2x2x2 1/2	1.75	1.05
9-A, 6-2, 8-1, 10-1, 12-1	14-H37275	16-2-2-25	450-450-450-25	⑧ 1 1/2x4 1/2	2.30	1.38
PILOT						
63	711C6TJ	8-8x2-2	475x475	① 1 3/4x2 1/4x3 1/4	3.45	2.07
PEERLESS E250						
		12-16-10	100	① 1 1/8x2x3	1.70	1.02
RADIO KEG						
		5-8-12	25-150-150	① 1x1 1/2x3	1.55	.93
RCA. (See G. E. and RCA-VICTOR)						
SILVERTONE						
7110	148	10-10x8-14	25x150	① 1 3/8x4 1/2	1.95	1.17
SIMPLEX						
PR		4-4	450	① 1 1/8x1 1/8x4 1/8	1.20	.72
(Standard Aerovox Type PBM450-4-4)						
Model V		4-20	150	① 1x1x4 5/8	1.40	.84
Model 4Z		15-8x5-5	150x25	① 1x1x4 1/2	1.90	1.14
STEWART WARNER						
10-20	81E98	5-5	25	① 3/4x 3/4x1 1/2	.75	.45
R-115, R-116	81959	4-13-7	150	① 3 3/8x1 3/8x1 3/8	1.65	.99
R-112	83111	8-8-5-5	250-250-25-25	① 1 1/4x1 1/4x3 1/8	1.95	1.17
	83394	12	150	① 1 1/8x1 1/8x2 3/8	.65	.39

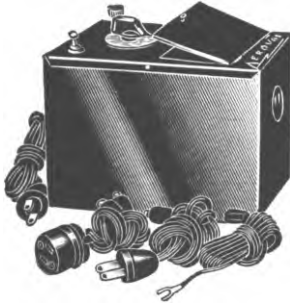
Model of Set	Part No.	Cap. Mfd.	D.C. Work Voltage	Size—Inches	List Price	Net Price
STEWART-WARNER—Continued						
85430	16	350	⑤ 1 3/8x3 1/2	1.10	.66	
(Standard Aerovox Type PG350-16)						
85431	16	500	⑤ 1 3/8x4	1.35	.81	
85792						
85793						
(Standard Aerovox Type PG500-16)						
83962	10-5	25-350	① 1 1/8x1 1/8x2 3/8	1.35	.81	
SPARTON						
A-9550	5-25-5	200	① 1 3/8x1 3/8x2 3/8	1.90	1.14	
71, 71B, 72-78	A-9754	8-8	450	① 1 3/8x4 1/4	1.60	.96
(Standard Aerovox Type 2G450-8-8)						
	A-93C8	20	25	① 1 1/8x 1 1/8x2 1/4	.55	.33
65, 65T, 66, 66T, 506	A-11093-1	5-25-5	200	① 1 3/8x2 3/8x2 1/2	1.95	1.17
(Same as Belmont for Model 425)						
UNITED MOTORS (Delco)						
8508	8-8-4-4	350-350-25-25	① 1 5/8x1 7/8x2 3/4	2.05	1.23	
4038	10-10	300	① 1 3/8x2 1/8x2 3/8	1.55	.93	
4048	6201	4-4-12	200	① 1 3/8x1 3/8x2 3/8	1.70	1.02
(Same as Apex Condenser (U. S. Radio & Tel) for Model 5 Part 6201)						
4052	A-443341	8-25	125	① 1 1/8x1 3/8x3 1/2	1.45	.87
(Same as Crosley part W-30962 for Model 182)						
982008 Oldsmobile 1936	R13183 (new) 1210514 (old)	8-8-12	250-250-20	① 1 1/2x2x2 3/4	1.80	1.08
980509 (Buick 1936)	1210685	8-8x12x5	350x25x50	① 1x2 3/4x3	2.15	1.29
626, 627, Chev. 601662	1209285	12x8-8	25x350	① 1 3/8x4 1/4	1.95	1.17
1934-35-Buick, Chev., Olds., Pont.	1209047	12x8-8	25x350	① 1 3/8x1 3/8x2 3/8	1.75	1.05
U. S. RADIO & TEL.						
Apex-5	6201	4-4-12	200	① 1 3/8x1 3/8x2 3/8	1.65	.99
(Same as United Motors (Delco) for Model 4048)						
Apex (1001 Chassis) 10B-200 President	2719	8	300	① 3/4x1 3/8x4 1/8	.75	.45
WARE						
S-76 (MB78)		4-4x4-8	450x450	① 1 1/2x2x4 1/8	2.50	1.50
WELLS-GARDNER						
05A, 05BA, 05AA	80944-A (old) 80944-E (new)	4-12-16 4-12-16	150 150	① 1 3/8x1 3/8x2 3/8 ① 1 3/8x1 3/8x3	1.85 1.85	1.11 1.11
(Same as Montgomery Ward Air Line Models 62-96, 62-98)						
	81042	16	500	① 1 3/8x4	1.35	.81
(Standard Aerovox Type PG500-16)						
	81043	20	350	⑤ 1 3/8x3 1/2	1.40	.84
(Standard Aerovox Type PG350-20)						
WEBSTER						
S-3888		40	100	④ 1x4 1/4	.95	.57
WURLITZER (Lyric)						
SA-5	35-3715	8-8-10	450-450-25	④ 1 3/8x5 1/4	1.80	1.08
C4-M4	37-3773	4-8x10	250-25	① 1 3/8x1 3/8x4	1.50	.90
SU-5		12-16x10	150-25	① 1 3/8x1 3/8x2 3/8	1.70	1.02
ZENITH						
22-125		8	450	④ 1 3/8x3 1/4	1.05	.63
(Standard Aerovox Type G450-8)						
22-217		8-8	450	④ 1 3/8x4 1/4	1.60	.96
(Standard Aerovox Type 2G450-8-8)						
22-230		8-8	450	④ 1 3/8x4 1/4	1.60	.96
(Standard Aerovox Type 2E450-8-8)						
22-236		8-8-10	300-300-25	(11) 1 3/8x2 3/4	1.70	1.02
22-125 22-331		8	500	④ 1 3/8x3 1/2	.95	.57
(Standard Aerovox Type PG500-8)						
7D126	22-484F	4-16-8-4	250	④ 1 1/2x4 1/4	2.70	1.62
Chassis 5401, 4P26, 4126 4P51, 4T51	22-407B	2-4-8	450	④ 1 1/2x4 3/8	1.95	1.17
78-28, 78-30, 78-53, Chassis 5704	22-416F	8-8-2	450	④ 1 3/8x4 1/4	2.00	1.20
Chassis 5903, 9S30, 9S54, 9S55	22-412C	2-4-16	475	④ 1 3/8x4 1/4	2.50	1.50
Chassis 5633, 6D116, 6D117, 6D118	22-481F	4-8-16	150	① 1 1/8x3 x3 3/8	1.85	1.11
5639, 6D-219	22-560	35-16-10	150-150-25	④ 1 5/8x4 5/8	1.50	.90

Type Container—① Cardboard Box; ② Rectangular Can; ③ Universal Can; ④ Inverted Can; ⑤ Inverted Can (Wet); ⑥ Cartridge; ⑦ Inverted Can (Insulated Cover); ⑧ Cardboard Tube; ⑨ Cardboard Tube (Spade Lug Mounting); (10) Metal Can; (11) Round Can Special.

AEROVOX

Interference Filters Auto-Radio Condensers

AEROVOX INTERFERENCE ANALYZER TYPE ANL-37



Plugs between interfering device and outlet. Selector switch adjusted until noise is eliminated or minimized. Dial indicates which type filter to use. Handsome. Sturdy metal cabinet. Compartment contains necessary test leads and attachment plugs and clips. Size 5 1/2 x 5 1/2 x 8 inches.

TYPE ANL-37
Dealers' and Servicemen's
Net Price \$7.00

AEROVOX Type IN-23



Especially for elimination of interference caused by fractional horsepower motors. Mounting bracket for attaching to frame of motor. Flexible leads for connecting across motors such as in hairdriers, fans, mixers, etc. .5-.5 mfd. 1 x 2 1/4 in.

TYPE IN-23
List Price \$0.75...Net Price \$0.45

AEROVOX Type IN-24



Designed for use in the most serious cases of radio interference from power lines and appliances. Provided with inductance as well as capacitance for thorough filtering action. Plugs into electric outlet. Radio set or interfering device plugs into receptacle of the filter. Especially desirable between device and line. Measures 4 x 2 1/2 x 3 3/4 in. 110-220v. A.C.

TYPE IN-24
List Price \$4.75...Net Price \$2.85

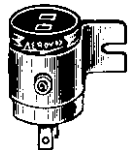
AEROVOX Type IN-27



Simple, inexpensive noise filter. Inserted between set and outlet when interference is slight. Also used with appliance causing low-intensity interference. Keeps troublesome noises out of house wiring and power line. Size 1 1/2 x 1 1/2 inches.

TYPE IN-27
List Price \$0.65...Net Price \$0.39

AEROVOX Type IN-28



Intended for cases where ground is considerable distance from point of application. Most efficient when mounted directly on interfering device by bracket. Size 1 1/2 x 2 inches.

TYPE IN-28
List Price \$0.95...Net Price \$0.57

AEROVOX Type IN-29



Provides additional filtering action over IN-27 and IN-28. Especially effective for local sources of interference of variable character but strong intensity. Very effective for electric razor and other vibrating devices. Plugs between device and line. Size 1 1/2 x 3 inches.

TYPE IN-29
List Price \$0.75...Net Price \$0.45

AEROVOX Type IN-30



Similar to IN-29 but with additional inductance. Handles more severe interference. Plugs between set and outlet, or preferably between noisy appliance and outlet. Size 1 1/2 x 3 inches.

TYPE IN-30
List Price \$1.25...Net Price \$0.75

AEROVOX Type IN-31



Plugs in between attachment cord and electric outlet, either of set or preferably at appliance. Additional inductance for better filtering. Works best mounted by bracket directly on interfering appliance. Size 1 1/2 x 3 inches.

TYPE IN-31
List Price \$1.50...Net Price \$0.90

ANTENNA SUBSTITUTE



Plugs into outlet or light socket. Flexible lead connects with set antenna post. Provides good aerial substitute under average wiring conditions. Size 1 1/2 x 2 inches.

TYPE ANT-32
List Price \$1.00...Net Price \$0.60

AUTO-RADIO CONDENSERS



Suppressor Condensers
Type 1120 — 1.0 Mfd.
List Price\$0.75
Net Price45
Type 1140 — 0.5 Mfd.
List Price\$0.50
Net Price30

Dual Section Suppressor Condenser

Type 1141 — .5-.5 Mfd.
List Price\$0.75
Net Price45

MOTOROLA Replacement Condenser

For Models 65 and 70 (Part No. 3321)

(2) Type 1466 — .0008 Mfd. 2500v. D.C. Test
List Price\$0.50
Net Price30

SUPPRESSOR CONDENSERS FOR FORD AUTO RADIOS



Type 1144-Cap. .5 Mfd.
List Price\$0.50
Net Price30

FOR 1936 MODELS

Type 1150-Cap. .5 Mfd.
List Price\$0.50
Net Price30

OIL-IMPREGNATED OIL-FILLED TUBULAR CONDENSERS



2000v. D.C. Working
Type 2089 oil-impregnated, oil-filled tubular condensers completely sealed from moisture or oil leakage and are ideal for vibrator applications, coupling condensers and transmitters, or high-voltage amplifiers and test equipment. All 2089 units are housed in a brass cadmium-plated can electrically insulated by special varnished-paper jacket. Ends of jacket spun over can rim eliminate possibility of shorts if leads are bent close to unit. Provided with mounting strap for additional connection.

Type No.	Cap. Mfd.	Size-Ins. D. L.	List Price	Net Price
2089	.0075	1 1/2 x 2 1/4	\$.75	\$.45
2089	.01	1 1/2 x 2 1/4	.80	.48
2089	.015	1 1/2 x 2 1/4	.80	.48
2089	.02	1 1/2 x 2 1/4	.85	.51
2089	.03	1 1/2 x 2 1/4	.85	.51
2089	.04	1 1/2 x 2 1/4	.90	.54
2089	.05	1 1/2 x 2 1/4	.95	.57

Oil-impregnated Metal-Case

VIBRATOR CONDENSERS



Type 1130 — One Lead	Type 1131- Two Leads
Cap. .007 Mfd.	Cap. .007 Mfd.
.01 Mfd.	.01 Mfd.
.02 Mfd.	.02 Mfd.
.03 Mfd.	.03 Mfd.
Cap. .04 Mfd.	Cap. .01 Mfd.
.05 Mfd.	.01 Mfd.
.06 Mfd.	.02 Mfd.
.07 Mfd.	

Any Capacity, Each
List Price \$0.45 Net Price \$0.27

Oil-impregnated Vibrator Condensers



Type	Cap.	List Price	Net Price
1135	.01	\$0.60	\$0.36
1135	.5	.65	.39

Tubular Paper Vibrator Condensers



Type 1684 — 1600 V.D.C.W.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.005	\$.35	\$.21	.03	\$.40	\$.24
.007	.35	.21	.04	.40	.24
.01	.35	.21	.05	.45	.27
.02	.35	.21			

Oil-impregnated Tubular Vibrator Condensers

Hermetically sealed oil condenser in metal tubes, with an outer cardboard tube as an insulating cover.

Type 1686 — 1600 V.D.C.W.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.005	\$.45	\$.27	.01	\$.60	\$.36
.006	.45	.27	.02	.60	.36
.007	.55	.33	.05	.65	.39
.008	.60	.36			

Gas-Gauge Filter Condenser

Type 1143-G .05 mfd.

List Price\$0.50
Net Price30

"Hash" Condenser

Type 1122-Cap. .5 Mfd.
List \$0.40...Net \$0.24

Dome Light Filter Condenser

TYPE 1180

List Price\$0.80
Net Price48

Oil-Gauge Filter Condenser

Type 1142-0 .25 mfd.

List Price\$0.50
Net Price30

Ammeter Condensers

Type 1160 .5

List Price\$0.45
Net Price27

Type 1170 1.0

List Price\$0.50
Net Price39

AEROVOX Transmitting

CONDENSERS RESISTORS

AEROVOX "HYVOL" TELEVISION CONDENSERS OIL-IMPREGNATED OIL-FILLED

"12" Series



Careful checking of operating conditions for television receivers already in use has created a wholesome respect for high voltages, peaks, surges and general strain on condensers in such assemblies. To meet such requirements, AEROVOX has developed this high-voltage oil-filled paper condenser.

Type 12 design includes new high-voltage molded cover, eliminating leakage and flashover. Oil-impregnated oil-filled paper section fully insulated from can. Generous specifications—more paper dielectric than usually considered necessary.

Type 2012-2000v. D.C.W.				
Cap. Mfds.	Size-Ins. Dia.-Hgt.	List Price	Net Price	
1.0	2 3/4 x 3 3/4	\$5.00	\$3.00	
2.0	2 3/4 x 5 1/4	8.50	5.10	
Type 3012-3000v. D.C.W.				
.05	2 1/2 x 2 1/2	\$5.75	\$3.45	
.1	2 1/2 x 2 1/2	6.25	3.75	
.25	2 1/2 x 3 1/4	7.50	4.50	
.5	2 1/2 x 3 1/4	9.00	5.40	
1.0	2 1/2 x 3 1/4	12.00	7.20	
Type 4012-4000v. D.C.W.				
.05	2 1/2 x 2 1/2	\$7.50	\$4.50	
.1	2 1/2 x 3 1/4	8.25	4.95	
.25	2 1/2 x 3 1/4	9.00	5.40	
Type 6012-6000v. D.C.W.				
.03	2 1/2 x 2 1/2	8.00	4.80	
.05	2 1/2 x 3 1/4	9.00	5.40	
.1	2 1/2 x 4 1/4	10.00	6.00	
Type 7512-7500v. D.C.W.				
.01	2 1/2 x 3 1/4	\$7.50	\$4.50	
.02	2 1/2 x 3 1/4	8.25	4.95	
.03	2 1/2 x 3 1/4	9.00	5.40	
.05	2 1/2 x 3 1/4	10.00	6.00	
.1	2 1/2 x 4 1/4	12.50	7.50	

"14" Series



Particularly applicable for use in high-voltage filter circuits such as cathode-ray tube power supplies, high-voltage by-pass circuits in transmitters and high-powered public address equipment. Type 14 units are made in the standard 1 3/4" diameter. Grounded can unit with single high-voltage insulator terminal. Offered in a choice of popular capacities. Generous specifications.

Grounded Can—Single Insulator Type 3014-3000v. D.C.W.				
Cap. Mfds.	Size-Ins. Dia.-Hgt.	List Price	Net Price	
.01	1 3/4 x 2 1/4	\$4.60	\$2.76	
.05	1 3/4 x 2 1/4	4.75	2.85	
.1	1 3/4 x 2 1/4	5.00	3.00	

AEROVOX "HYVOL"

OIL-IMPREGNATED OIL-FILLED CONDENSERS

In Rectangular Metal Cans

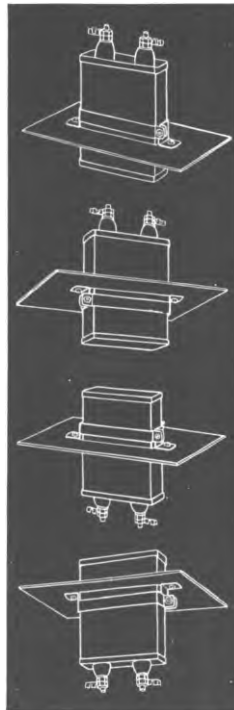
"09" Series

With NEW Universal Adjustable Mounting Bracket



Selected paper section condensers filled and impregnated with "Hyvol," the new super-dielectric oil. Hermetically-sealed in sturdy welded-steel aluminum-finished can, leak-proof and seepage-proof. High tension pillar terminals fitted with lock-nuts and soldering lugs. Exceptionally compact dimensions for given capacity, working voltage—and safety factor due to use of "Hyvol." Intended for heavy-duty continuous service in transmitters, amplifiers, etc. Provided with the new universal adjustable mounting bracket for mounting any height above or below chassis platform.

Type 609-600v. D.C.W.				
Cap. Mfds.	Size-Ins. L. W. D.	List Price	Net Price	
1	2 1/2 x 1 1/8 x 1 1/8	\$3.50	\$2.10	
2	3 1/4 x 1 1/8 x 1 1/8	4.25	2.55	
4	3 1/4 x 2 1/2 x 1 1/8	5.50	3.30	
Type 1009-1000v. D.C.W.				
1	2 1/2 x 1 1/8 x 1 1/8	\$3.75	\$2.25	
2	3 3/8 x 1 1/8 x 1 1/8	5.00	3.00	
4	4 3/8 x 2 1/2 x 1 1/8	6.25	3.75	
Type 1509-1500v. D.C.W.				
1	4 x 1 1/8 x 1 1/8	\$4.50	\$2.70	
2	4 1/2 x 2 1/2 x 1 1/8	6.25	3.75	
4	4 3/8 x 3 3/4 x 1 1/4	8.50	5.10	
Type 2009-2000v. D.C.W.				
1	3 1/2 x 2 1/4 x 1 3/8	\$5.50	\$3.30	
2	3 3/8 x 3 3/4 x 1 1/4	6.50	3.90	
4	3 3/8 x 3 3/4 x 2 1/4	9.00	5.40	
Type 2509-2500v. D.C.W.				
1	3 3/8 x 3 3/4 x 1 3/4	\$8.00	\$4.80	
2	4 3/8 x 3 3/4 x 1 3/4	14.00	7.80	
Type 3009-3000v. D.C.W.				
1	3 3/8 x 3 3/4 x 2 1/4	\$12.00	\$7.20	
2	4 1/4 x 3 3/4 x 3 3/8	15.00	9.00	



Type 4009-4000v. D.C.W.				
Cap. Mfds.	Size-Ins. Dia.-Hgt.	List Price	Net Price	
1	5 1/8 x 3 3/4 x 2 1/4	\$22.00	\$13.20	
2	5 1/8 x 4 3/8 x 3 3/4	28.00	16.80	
Type 5009-5000v. D.C.W.				
1	4 3/8 x 4 3/8 x 3 3/4	\$25.00	\$15.00	
2	6 3/8 x 4 3/8 x 3 3/4	32.00	19.20	

AEROVOX "HYVOL"

OIL-IMPREGNATED OIL-FILLED CONDENSERS

In Round Aluminum Cans

"05" Series



Pure linen paper dielectric, impregnated and filled with the new super-dielectric oil, "Hyvol." Convenient round can, provided with ring mounting. High-voltage pillar terminals. Hermetically sealed in leak-proof containers. Very conservative ratings for continuous operation, and therefore larger than the "10" Series inverted screw-mounting units.

Type 605-600v. D.C.W.				
Cap. Mfds.	Size-Ins. Dia.-Hgt.	List Price	Net Price	
1	2 x 2 x 2 3/4	\$2.50	\$1.50	
2	2 x 2 x 2 3/4	3.25	1.95	
4	2 x 2 x 3 3/4	4.50	2.70	

Type 1005-1000v. D.C.W.				
Cap. Mfds.	Size-Ins. Dia.-Hgt.	List Price	Net Price	
1	2 x 5 1/4	\$2.75	\$1.65	
2	2 x 5 1/4	3.75	2.25	
4	2 1/2 x 5 1/4	4.75	2.85	
Type 1505-1500v. D.C.W.				
1	2 x 5 1/4	\$3.50	\$2.10	
2	2 x 5 1/4	4.75	2.85	
4	2 1/2 x 5 1/4	6.00	3.60	
Type 2005-2000v. D.C.W.				
1	2 x 4 3/4	\$4.50	\$2.70	
2	2 1/2 x 5 1/4	5.00	3.00	
Type 2505-2500v. D.C.W.				
1	2 x 5 1/4	\$6.00	\$3.60	
2	2 1/2 x 5 1/4	10.00	6.00	
Type 3005-3000v. D.C.W.				
1	2 1/2 x 5 1/4	\$9.00	\$5.40	
2	3 x 5 1/4	11.00	6.60	

AEROVOX "HYVOL" OIL-IMPREGNATED OIL-FILLED CONDENSERS In Round Aluminum Cans —Inverted Mounting



"10" Series

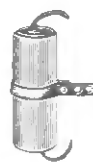
Designed for inverted screw mounting with can grounded. With insulating washer, can may be insulated from metal chassis if preferred. Extremely compact for use in crowded assemblies. Hermetically sealed. Leakage-proof. Used extensively in filter circuits of power supplies, high-gain, high-fidelity amplifiers, television circuits, transmitters, etc.

Type 610-600v. D.C.W.				
Cap. Mfds.	Size-Ins. Dia.-Hgt.	List Price	Net Price	
2	1 1/2 x 3 1/2	\$2.75	\$1.65	
3	1 1/2 x 4 1/2	3.25	1.95	
4	1 1/2 x 5 1/4	3.75	2.25	
Type 1010-1000v. D.C.W.				
1	1 1/2 x 2 3/4	\$2.50	\$1.50	
2	1 1/2 x 4 1/2	3.25	1.95	
Type 1510-1500v. D.C.W.				
.5	1 1/2 x 2 3/4	\$3.00	\$1.80	
1	1 1/2 x 4 1/2	3.25	1.95	

Hermetically-Sealed Tubular Condensers

OIL-IMPREGNATED OIL-FILLED

Type 89



Genuine oil-impregnated oil-filled tubular condensers. Completely sealed from moisture or oil leakage. Ideal for vibrator applications, coupling condensers and transmitters, or high-voltage amplifiers and test equipment. In brass cadmium-plated can. Electrically insulated by special varnished-paper jacket. Ends spun over rim eliminate possibility of shorts if leads are bent close to unit. Provided with mounting strap for added connection.

Types and D.C.W. Voltages

Cap. Mfds.	489-400		689-600	
	List Price	Net Price	List Price	Net Price
.006	\$0.35a	\$0.21	\$0.40a	\$0.24
.007	.35a	.21	.40a	.24
.0075	.35a	.21	.40a	.24
.008	.35a	.21	.40a	.24
.01	.40a	.24	.50a	.30
.015	.40a	.24	.50b	.30
.02	.40b	.24	.50b	.30
.03	.50b	.30	.60b	.36
.04	.50b	.30	.60c	.36
.05	.60c	.36	.70d	.42
.1	.70d	.42	.80g	.48
.25	.85e	.51	.90e	.54
.5	1.00f	.60	.....	.....
		1089-1000	2089-2000	
.006	\$0.50a	\$0.30	\$0.75g	\$0.45
.007	.50a	.30	.75g	.45
.0075	.50a	.30	.75g	.45
.008	.50a	.30	.80g	.48
.01	.60h	.36	.80g	.48
.015	.60h	.36	.80h	.48
.02	.60h	.36	.85h	.51
.03	.70e	.42	.85h	.51
.04	.70e	.42	.90h	.54
.05	.80e	.48	.95h	.57
.1	.90g	.54	.....	.....

Sizes—Type 89

a—1 1/2 x 1 1/8	c— 3/4 x 2 3/4
b— 3/4 x 1 1/8	f— 1 1/8 x 2 3/4
e— 1/2 x 1 1/8	g— 1/2 x 2 3/4
d— 1/2 x 2 3/8	h— 1/2 x 2 3/4

AEROVOX Transmitting

CONDENSERS RESISTORS

HIGH-VOLTAGE MOLDED MICA TRANSMITTING CONDENSERS



Type 1450
Size 1 1/4" x 1 1/4"

One of the most popular of the AEROVOX mica transmitting line. Indexed for point-to-point wiring, being supported entirely by its soldered connections.

Type 1450
1000v. D.C. Test
*600v. D.C. Test

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.0001	\$0.35	\$0.21	.002	\$0.45	\$0.27
.00015	.35	.21	.003	.55	.33
.0002	.35	.21	.004	.55	.33
.00025	.35	.21	.005	.55	.33
.0004	.35	.21	.006	.65	.39
.0005	.35	.21	.01	.80	.48
.001	.40	.24	.02*	1.20	.72



Types 1455-57
Size 1 1/4" x 1 1/2"

Types 1455-57, having insulated mounting holes, independent of soldering lugs, for connections. 1 1/2" spacing between mounting hole centers. If 1 3/8" spacing is preferred specify Types 1445-47. Large meter-mounting brackets permitting use of this type of unit for shunting meter windings may be obtained at 35c added to list price. Specify by adding suffix (A) to type number. Small brackets are also available at 20c additional. Specify by suffix (E). Both brackets have universal slots for either mounting hole spacing.

Types & D.C. Test Voltages

1455-1000			1456-2500			1457-5000		
Cap. Mfd.	List Price	Net Price	List Price	Net Price	List Price	Net Price	List Price	Net Price
.00005	\$5.50	\$3.30	\$7.70	\$4.20	\$9.90	\$5.54		
.0001	.50	.30	.70	.42	.90	.54		
.00025	.50	.30	.70	.42	1.05	.63		
.0005	.50	.30	.70	.42	1.25	.75		
.001	.50	.30	.90	.54	1.50	.90		
.002	.55	.33	1.35	.81	2.25	1.35		
.006	.85	.51	1.75	1.06				
.01	1.15	.69	2.80	1.68				
.02	1.55	.93						

METAL-CASED ULTRA-COMPACT PAPER CONDENSERS Type 80

Ultra-compact heavy-duty condensers. Wax-impregnated, wax-filled. Used as replacements in sound equipment, high power radio receivers, electronic devices, and communication equipment. Housed in a rust-proof container with soldering terminals conveniently located.

Type 1080—1000v. D.C. Work.

Cap. Mfd.	Size—In. D. W. L.	List Price	Net Price
.5	3/8 x 1 1/4 x 2	\$1.50	\$0.90
1.0	1 1/4 x 1 1/4 x 2	2.05	1.23
2.0	2 1/4 x 1 1/4 x 2	3.20	1.92
4.0	2 3/4 x 2 3/8 x 2	5.15	3.09



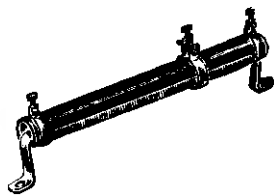
Types 1650-54
Size 1 3/8" x 1 1/4"

Heaviest-duty molded bakelite mica condensers of the AEROVOX line. Provided with threaded holes taking the roundhead screw terminals. Also available with plain holes through which screws or rods may be slipped. Same price as 1650 series, but specify 1650A, etc. when latter is desired.

Types and D.C. Voltages

Cap. Mfd.	Types and D.C. Voltages				
	1650	1651	1652	1653	1654
.00005	\$0.60	\$0.70	\$0.90	\$1.10	\$1.25
.0001	.36	.42	.54	.66	.75
.00015	.60	.70	.90	1.30	1.60
.0002	.36	.42	.54	.78	.96
.00025	.60	.70	.95	1.40	1.75
.0003	.36	.42	.57	.84	1.05
.0004	.60	.70	1.00	1.50	1.90
.0005	.36	.42	.60	.90	1.14
.001	.60	.70	1.05	1.65	2.10
.002	.36	.42	.63	.99	1.26
.003	.60	.70	1.25	2.00	2.75
.004	.36	.42	.75	1.20	1.65
.005	.60	.90	1.50	2.40	3.50
.01	.36	.54	.90	1.44	2.10
.02	.65	1.35	2.25	3.20	4.50
.03	.39	.81	1.35	1.92	2.70
.04	.85	1.55	2.75	4.00	5.50
.05	.51	.93	1.65	2.40	3.30
.06	.85	1.55	3.15	4.50	6.15
.07	.51	.93	1.65	2.40	3.30
.08	.85	1.75	3.40	4.80	6.60
.09	.51	1.05	2.04	2.88	3.96
.10	1.00	1.75	3.50	5.00	6.80
.12	.60	1.05	2.10	2.94	4.05
.15	1.40	2.80	4.10	5.70	7.80
.20	.84	1.68	2.46	3.42	4.70
.25	1.85	3.95	5.60	7.80	10.70
.30	1.11	2.37	3.36	4.68	6.40
.40	3.85	7.70	11.00	15.30	21.00
.50	2.31	4.62	6.48	8.94	12.20

"SLIDE OHM" X-MITTING GRID LEAKS



Type 958—200 Watts
Size—1 1/8 x 10 1/2 inches

200-watt heavy-duty adjustable wire-wound vitreous-enamel resistors especially for use as a transmitting grid leak or in power units and other circuits where adjustable heavy-duty resistors or voltage dividers are required. Scale marked on each unit for setting to any desired resistance value. Provided with horizontal mounting brackets and one adjustable contact slider.

Resistance Ranges	List Price	Net Price
5-10,000	\$3.00	\$1.80
15,000-100,000	3.50	2.10
125,000-150,000	3.75	2.25

PORCELAIN-CASED MICA CONDENSERS

Ideal for those higher-frequency applications. Encased and hermetically-sealed in glazed porcelain case. Heavy-duty terminals. Power loss due to dielectric absorption reduced to a minimum. Units operated at full load without heating up. Dimensions: 3 1/2" between mounting holes, 4" overall by 3" high.



Types 1991-96

Type 1991—2000v. Max. D.C.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.02	\$7.00	\$4.20	.1	\$11.00	\$6.60

Type 1992—3500v. Max. D.C.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.001	\$3.75	\$2.25	.005	\$6.00	\$3.60
.0015	4.00	2.40	.01	7.00	4.20
.002	4.25	2.55	.02	8.75	5.25
.003	5.00	3.00	.05	11.50	6.90

Type 1993—5000v. Max. D.C.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.002	\$4.75	\$2.85	.005	\$6.50	\$3.90
.003	5.50	3.30	.01	8.00	4.80

Type 1994—7000v. Max. D.C.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.0005	\$3.75	\$2.25	.003	\$6.00	\$3.60
.001	4.25	2.55	.005	7.00	4.20
.0015	4.75	2.85	.01	9.50	5.70
.002	5.25	3.15			

Type 1995—10000v. Max. D.C.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.002	\$6.00	\$3.60	.005	\$9.50	\$5.70
.003	7.00	4.20			

Type 1996—12500v. Max. D.C.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.00005	\$3.75	\$2.25	.001	\$5.00	\$3.00
.0001	3.75	2.25	.0015	5.50	3.30
.00025	3.75	2.25	.002	6.50	3.90
.0005	4.25	2.55	.003	8.00	4.80

COMPACT HERMETICALLY-SEALED OIL CONDENSERS Type 16

Compact, oil-filled, hermetically-sealed units for use where least space and minimum weight are essential. Corrosion-proof metal container. Special immersion-proof terminals designed for equipment subjected to severe atmospheric and climatic conditions. Suitable for by-pass and filter applications in receivers and low-power transmitters. All 1 1/8" wide x 1 1/2" deep x 1 1/4" high except *units 1 1/4" high and 1 1/2" high.



Types and D.C.W. Voltages

Cap. Mfd.	216-200		416-400	
	List Price	Net Price	List Price	Net Price
.01	\$1.65	\$0.99	\$1.70	\$1.02
.05	1.70	1.02	1.75	1.05
.1	1.80	1.08	1.85	1.11
.25	1.85	1.11	1.90*	1.14*
.5	1.90*	1.14*	1.95†	1.17†
1.0	2.00†	1.20†		

Commercial Grade

TRANSMITTING CAPACITORS



The self-same extra-heavy-duty capacitors which Aerovox has been supplying to the Army and Navy, to commercial communication companies and broadcasters, and to builders of quality radio and electronic equipment, are now available to amateurs and experimenters as well.

Thus Aerovox is contributing its share towards narrowing still more the small remaining gap between professional and amateur radio practices.

Due to the necessarily limited demand for these extra-heavy-duty mica, paper, oil-filled and plug-in electrolytics, as well as the great diversity of items, this line is not stocked by us. However, as Authorized Aerovox Jobbers, we are in position to order these commercial-grade capacitors for you.

Let us know what applications you have that call for extra-heavy-duty capacitors, and we shall gladly supply specifications and quotations, and take care of your orders.

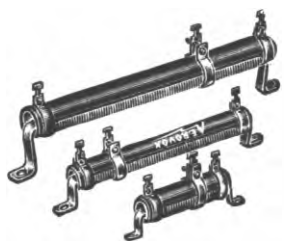


AEROVOX

CARBON "PYROHM JUNIOR" "SLIDEOHM"

Resistors

"SLIDEOHM" Wire-Wound Vitreous-Enamelled ADJUSTABLE RESISTORS



Adjustable resistors combining adjustment to any resistance value within unit's range, with positive, permanent, non-fluctuating qualities of wire-wound resistor. Each Slideohm Resistor is provided with horizontal mounting brackets and one adjustable contact slider.

Type 952—25 Watts		
Size $\frac{3}{8}$ x 2 inches		
Ranges	List	Net
1-5000	\$0.85	\$0.51
6000-12,000	.95	.57
Extra Slider Bands—10c ea., Net 6c		

Type 954—50 Watts		
Size $\frac{3}{8}$ x 4 $\frac{1}{2}$ inches		
Ranges	List	Net
5-5000	\$1.35	\$0.81
6000-25,000	1.50	.90
30,000-50,000	1.70	1.02
Extra Slider Bands—10c ea., Net 6c		

Type 956—75 Watts		
Size $\frac{3}{8}$ x 6 $\frac{1}{2}$ inches		
Ranges	List	Net
5-5000	\$1.75	\$1.05
6000-25,000	2.00	1.20
30,000-50,000	2.25	1.35
60,000-70,000	2.50	1.50
Extra Slider Bands—15c ea., Net 9c		

Type 957—100 Watts		
Size 1 $\frac{1}{8}$ x 6 $\frac{1}{2}$ inches		
Ranges	List	Net
5-5000	\$2.00	\$1.20
6000-25,000	2.25	1.35
30,000-50,000	2.50	1.50
60,000-75,000	2.75	1.65
Extra Slider Bands—15c ea., Net 9c		

Type 958—200 Watts		
Size 1 $\frac{1}{8}$ x 10 $\frac{1}{2}$ inches		
Ranges	List	Net
5-10,000	\$3.00	\$1.80
15,000-100,000	3.50	2.10
125,000-150,000	3.75	2.25
Extra Slider Bands—15c ea., Net 9c		

Type Resis. Ohms	952 25 Watts Cur. M.A.	954 50 Watts Cur. M.A.	956 75 Watts Cur. M.A.	957 100 Watts Cur. M.A.	958 200 Watts Cur. M.A.
1	5000				
3	2880				
5	2230	3160	3870	4470	6320
10	1580	2240	2740	3160	4470
15	1290		2240	2580	
20	1115				
25	1000	1410	1730	2000	2825
50	710	1000	1220	1410	2000
75	580	815	1000	1150	
100	500	705	865	1000	1400
150	410	575			
200	355	500	610		
250	315	445	550	630	900
300	290	405	500		
400	250	350	430		
500	225	315	385	445	630
750	180	260	315	365	
800		250	305		
850	170				
1000	160	225	275	315	450
1250	140	200	245		
1500	130	180	225	260	365
2000	110	160	195	225	315
2250	105	150			
2500	100	140	173	200	280
3000	90	130	158	180	260
3500	85	120	146	170	240
4000	80	110	137	160	225
4500	74	105	129	150	210
5000	70	100	122	140	200
6000	65	91	111	130	
7000	57	85	103		
7500	53		100	115	165
8000	50	79	97	110	
8500	47				
9000	44	75	91		
10,000	40	71	87	100	140
12,000	33	64			
15,000		58	71	80	115
20,000		48	61	70	100
25,000		40	55	60	90
30,000		33	50	50	82
35,000			43	43	71
40,000		25	37	37	62
50,000		20	30	30	50
60,000			25	25	42
70,000			21	21	
75,000				20	33
100,000					25
125,000					20
150,000					16

"PYROHM JUNIOR" Wire-Wound Vitreous-Enamelled FIXED RESISTORS

Compact, genuine wire-wound units. Covered with vitreous-enamel. Highest quality materials used throughout. Correctly designed. Note these features:



1. Crack-proof refractory tubing for the support. Adequate heat dissipation.
2. Quality resistance wire precisely space wound under tension.
3. Copper terminal band clamped to tubing. Wire ends wrapped about raised ear and brazed to same.

4. Heavy vitreous-enamel coating for permanent seal against moisture, oxidation and mechanical damage.

5. Pig-tail of stiff wire 2 in. long soldered to terminal band for positive, non-breakable connection.

Type 931—10 Watts	
Size—Ins. $\frac{1}{8}$ x 1 $\frac{1}{4}$	
List Price, each	\$0.40
Net Price, each	.24
30,000 to 50,000 ohms, rated at 5 watts.	

Stock Resistance Ranges			
1	200	1750	14,300
2	250	2000	15,000
3	300	2500	16,000
4	350	2750	17,500
5	400	3000	18,000
7.5	450	3500	20,000
10	500	4000	22,500
12	600	4500	25,000
15	650	5000	30,000
20	700	5500	35,000
25	750	6000	40,000
30	800	7000	45,000
35	850	7500	50,000
40	900	8000	60,000
50	1000	8500	70,000
75	1100	9000	80,000
100	1200	10,000	90,000
125	1250	12,000	100,000
150	1400	12,500	
175	1500	13,500	

Type 933—20 Watts		
Size—Ins. $\frac{1}{8}$ x 2		
Ranges	List	Net
1-15,000	\$0.65	\$0.39
60,000-100,000	1.00	.60
25,000-100,000 ohms rated at 7 watts.		

Stock Resistance Ranges			
1	650	3000	30,000
3	700	3500	35,000
5	750	4000	40,000
10	800	4500	45,000
15	850	5000	50,000
25	1000	6000	55,000
50	1200	7000	60,000
75	1250	7500	65,000
100	1500	8000	70,000
150	1750	10,000	75,000
175	1850	12,500	80,000
200	2000	13,000	85,000
250	2250	15,000	90,000
300	2400	20,000	95,000
350	2500	25,000	100,000
400	2750		
500			

LACQUER COATED CARBON RESISTORS



Non-hygroscopic body of special composition, unaffected by temperature changes. Quiet in operation. Values permanently maintained at all loads. High mechanical and electrical strength. Pig-tail leads 2 in. long. Conservative ratings. RMA color-coded. Resistance values stamped thereon.

Types	Rating Watt	Size Ins.	List ea.	Net ea.
1096	$\frac{1}{8}$	$\frac{3}{16}$ x $\frac{1}{4}$	\$.15	\$.09
1095	$\frac{1}{4}$	$\frac{1}{4}$ x 1	.15	.09
1094	1	$\frac{3}{8}$ x 1 $\frac{1}{4}$	.18	.11

Stock Resistance Ranges—Ohms			
1	500	7500	100000
2	600	8000	125000
3	700	9000	150000
5	750	10000	200000
7.5	800	11000	250000
10	850	12000	300000
15	900	12500	350000
20	1000	15000	400000
25	1200	17500	500000
30	1250	18000	600000
40	1400	20000	700000
50	1500	22500	750000
75	1750	25000	1 Meg.
100	2000	30000	1 $\frac{1}{2}$ Meg.
120	2250	35000	2 Meg.
150	2500	40000	2 $\frac{1}{2}$ Meg.
200	3000	45000	3 Meg.
250	3500	50000	4 Meg.
300	4000	60000	5 Meg.
350	5000	65000	6 Meg.
400	6000	70000	7 Meg.
450	7000	75000	10 Meg.
		80000	20 Meg.

INSULATED MOLDED CARBON RESISTORS



Small, noiseless, vibration-proof. Crack-proof molded casing around molded carbon resistance element. Tinned copper pig-tail leads 2 in. long. Resists humidity effects. Ideal for AVC circuits, high-gain amplifiers. RMA color-coded; stamped with resistance value. Precision tested. Standard tolerance 10%. These types may come thru for some time in slightly larger sizes until complete changeover is achieved.

Types	Rating Watt	Size Ins.	List ea.	Net ea.
1098	1	1 $\frac{1}{4}$ x $\frac{5}{8}$	\$.20	\$.12
1097	$\frac{1}{2}$	$\frac{1}{2}$ x $\frac{3}{8}$	.17	.10

Stock Resistance Ranges—Ohms			
1	350	7500	100000
2	400	8000	125000
3	450	9000	150000
4	500	10000	175000
5	600	11000	200000
7.5	750	12000	250000
10	800	12500	300000
15	900	13000	400000
20	1000	14000	500000
25	1250	15000	600000
30	1500	17500	750000
40	1750	20000	1 Meg.
50	2000	22500	1 $\frac{1}{2}$ Meg.
60	2250	25000	2 Meg.
75	2500	30000	2 $\frac{1}{2}$ Meg.
100	3000	35000	3 Meg.
120	3500	40000	4 Meg.
150	4000	50000	5 Meg.
200	5000	60000	6 Meg.
250	6000	65000	7 Meg.
300	7000	70000	10 Meg.
		75000	20 Meg.



AEROVOX

CAPACITY and RESISTANCE

Bridge

• In the best interests of ALL users of condensers, AEROVOX engineers have developed this more critical checking means. Tests and readings, more than any claims and superlatives, best tell the true story of any and all condensers. Years of experience testing and checking condenser quality have been boiled down to provide this simple, portable, moderately-priced instrument. Do not confuse it with other bridges employing just an electric eye or neon lamps as indicators. Check the following features point by point with other type bridges, before you decide which one to buy. Remember, leading laboratories are using the AEROVOX Bridge, despite the fact that it is a serviceman's instrument, primarily.

What It Does . . .

• CAPACITY BRIDGE

Measures capacity, leakage, power factor, etc., of condensers under actual working conditions. 100 mmfd. (.0001) to 100 mfd. in 6 ranges.

• RESISTANCE BRIDGE

Measures resistance values of resistors and electrical equipment and circuits. 10 ohms to 1 megohm.

• INSULATION RESISTANCE

Measures this important factor in condensers and other devices. Meter calibrated directly in megohms. Reads up to 10,000 megohms at 500 volts.

• VACUUM-TUBE VOLTMETER

Consists of amplifier stage and grid-leak detector. Measures minute values.

• VOLTMETER

Available for voltage readings, 0-60 v., 0-300 v., 0-600 v., at 1000 ohms per volt. May be used externally.

• MILLIVOLTMETER

Meter terminals brought out directly. Range, 60 mv. at 60 ohms, or 1 m.a. Can be used with external shunts.

• MILLIAMMETER

Meter can be read in milliamperes. 0-6 ma., 0-60 ma. May be used externally.

• VARIABLE POWER SUPPLY

Available directly at terminals. Supplying between 15 and 600 volts continuously variable over entire range.

Specifications . . .

• Measures with sufficient practical accuracy all essential properties of condensers under actual working conditions. In addition, all components and circuits are utilized for other measurements and tests. • Simple to operate. Neat layout of knobs and dials. Concise instructions for each control etched directly on panel. General directions on inside cover. • Binding posts insulated with XXX Bakelite and accommodate banana plugs, spade terminals, phone tips and bare wires. • Tubes mounted on shelf alongside panel. Space alongside -45 tube accommodates power cord. Tubes: 6C8G, 1V, -45. • Red gumwood cabinet. Natural finish. Lock-corner construction. Leather handle. Heavy catch • Two slip hinges permit removing cover. Rubber feet and bumpers, top and bottom. A fine instrument. • Each instrument precisely calibrated and thoroughly factory tested. Serially numbered and registered in original owner's name for full protection. Elaborate manual supplied with each instrument. • Dimensions: 10 $\frac{3}{4}$ x 7 $\frac{3}{4}$ x 8 inches. Weight: 11 lbs.

- 1. Meter Range Switch.** "Brains" of the bridge. Provides external milliammeter first three positions; external voltmeter next three, ranging from 60, 300 and 600 v. at 1000 ohms per volt. "Bridge" indicates power on and balancing position. Also provides vacuum-tube voltmeter and insulation resistance test at "VTV"; leakage test through X terminals at "L 60 MA" and "L 6 MA" positions; and polarizing voltage readings on proper meter range at "PV" position.
- 2. Polarizing Voltage Control.** Inner knob serves as transformer tap switch. Outer knob is vernier control indicating continuously variable voltage 15 to 600 volts in 3 steps. Voltmeter automatically switched to proper range 0-60, 0-300, 0-600. Variable voltage available between terminals X and Ground for meter calibration, load tests, amplifiers, etc.
- 3. Power Factor Control and** Switch for insulation resistance test.
- 4. Bridge Range Control** for reading capacity: .0001-.001 mfd.; .001-.01 mfd.; .01-.1 mfd.; .1-1.0 mfd.; 1.0-10 mfd.; 10-100 mfd. Multiplying factor for both capacity and resistance indicated on face of control.
- 5. Zero Adjustment** for vacuum tube voltmeter and bridge detector.
- 6. Push Button** for insulation resistance test.
- 7. Main Dial,** linear calibration, for capacity and resistance readings.

Note the multiplicity of functions which this versatile instrument performs. High-grade meter movement is used in place of magic eyes and neon lamps generally found in bridges priced for the service trade. Resistors, tubes and other components are likewise of precision grade for accuracy first and last.



BRIDGE MANUAL: Covers theory and practice of all types of bridges. Covers all measurements and tests. Simply invaluable to radio and electrical worker. Supplied with Bridge. Available separately at 50c net.

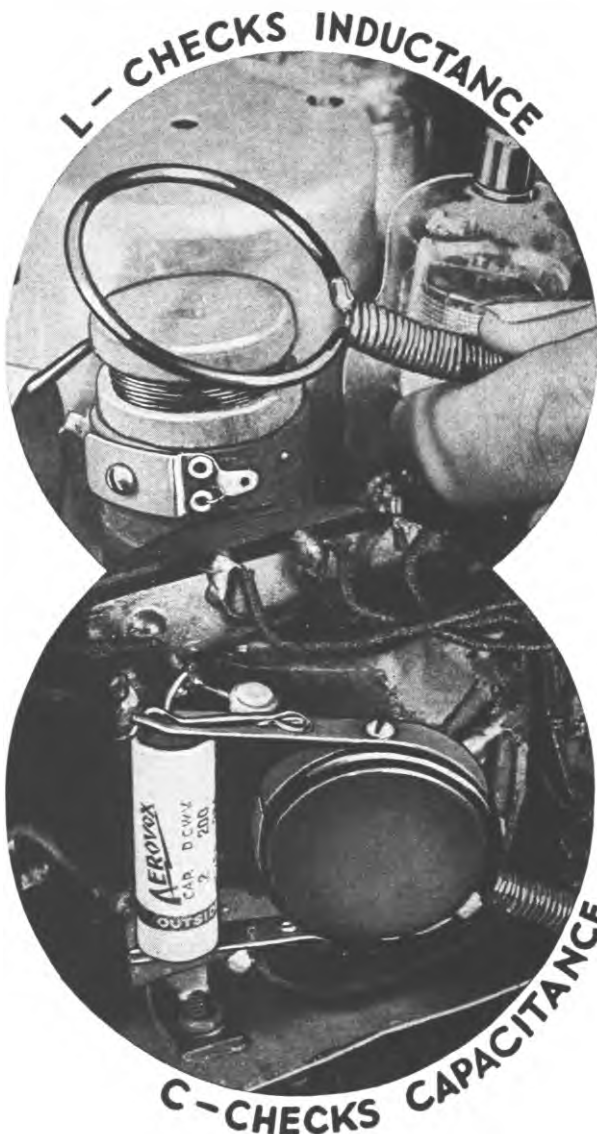
AEROVOX

L-C CHECKER

Model 95

● Designed to test condensers and inductances in the radio-frequency range, under conditions that simulate actual working conditions. Determines effectiveness of capacity or inductance while actually connected in its circuit. Under such conditions the efficiency of testing is greatly increased. In addition to testing radio components singly, it is possible to test combinations of inductance (L) and capacitance (C), thereby determining the resonant frequency of combinations and, by such means, the operating effectiveness of the circuit. Also, this instrument can be employed to adjust circuit or systems to proper operating efficiency.

Unique, up-to-the-minute, simple, inexpensive, the L-C Checker is truly indispensable to the serious radio worker.



What It Checks . . .

- ✓ Capacity of condensers at radio frequencies without removing them from circuit.
- ✓ Alignment of r.f. circuits. Tracking of super-het. oscillator.
- ✓ Alignment of both broad and narrow band u.f. amplifiers.
- ✓ Tuning of wave traps and of image-rejection circuits; frequency ranges of receivers; frequency ranges of signal generators; calibration of wave meters.
- ✓ Identifying harmonics of frequency standard in precision frequency calibration of radio equipment.
- ✓ Natural resonant points of r.f. chokes making sure they are beyond operating range.
- ✓ Tracing resonant absorption trouble in "all-wave" receiver circuits—locating dead spots, etc.
- ✓ Locating resonant points in shorted windings (unused coils in multi-range oscillators, etc.).
- ✓ Locating resonant frequency of r.f. coupling chokes, making sure of placement to secure enough gain balance over tuning range of r.f. stage.
- ✓ Checking natural period of antennae and transmission lines, to have resonant peaks at certain frequencies.
- ✓ Checking quartz crystals for frequency, false frequency, operation at harmonics, and for activity.
- ✓ Checking FM of i.f. transformers.
- ✓ Checking alignment of FM of i.f. channels.
- ✓ Checking many other functions when used with auxiliary equipment.

Specifications . . .

General: Completely self-contained. Sturdy steel case. Crackle-finished baked enamel. Handsome front panel. Side compartment holds power cord, test leads, coupling link. **Operation:** 115-volt 60-cycle A.C. Will operate on D.C. and frequencies other than specified. **Frequency range:** Oscillator has six coil ranges, selected by panel switch—60-170, 170-490, 490-1500 kc.; and 1.5-4.6, 4.5-15, and 13-26 mc. **Indicator:** Type 6E5 magic eye, indi-

cating energy in oscillator circuit by widening of shadow angle. **Very critical. Tube Complement:** 6J5G, 6E5, 25Z5, VR105. **Accuracy:** Checks capacitance and inductance values well within 10% depending upon conditions. Indicates frequencies within 1% under satisfactory conditions. **Dimensions:** 10 1/2 x 7 1/2 x 5 1/2 in. **Weight:** 6 lbs. Fully guaranteed. Serial numbered and registered in original buyer's name. Instruction manual included.

L-C CHECKER MODEL 95

Complete, including tubes, power cord, coupling unit and capacity clip (shown at left) and spring clip leads,

together with explicit instructions on how to use instrument for widest variety of tests and checks.

Dealer's-Serviceman's Net Cost. . \$29.50

AEROVOX MOTOR-STARTING CAPACITOR SELECTOR AND EMERGENCY CAPACITORS

**FIRST AID FOR THAT AILING CAPACITOR-
START TYPE REFRIGERATOR MOTOR**

Refrigerator servicing is necessarily a rush job. Perishable food is at stake; more important still, the family's health. So if you're servicing electric refrigerators, by all means get them going promptly. Nine times out of ten, the trouble is a wornout capacitor. And here's the first-aid treatment:

WHAT CAPACITOR DO YOU NEED?

By referring to the motor name-plate and then to AEROVOX listings, you can readily determine what exact-duplicate capacitor is required. But—time is precious. Every minute counts. You may not have time to run down to the jobber's and pick up the required replacement. What to do?

USE THE CAPACITOR SELECTOR

Simple enough. Use the AEROVOX Capacitor Selector. Merely connect its clips in place of defunct capacitor. Try the various toggle switches starting with the 65 mfd. first. Note that each successive toggle throws in 17.5 mfd. more, for a wide range of capacities to 152½ mfd. Watch that the voltmeter reading doesn't exceed 138 volts. When adequate starting torque is obtained in less than three seconds, merely total the capacity from the "on" switches. That's the correct capacity required. Simple enough!

CLIP ON AN EMERGENCY CAPACITOR

Now, having determined required capacity with the Selector, simply take an AEROVOX Emergency Capacitor and make up the necessary capacity by plugging in the respective colored leads and plugs into the grouping connector, as per directions on the Emergency Capacitor. With the proper capacity now made up, simply clip the rubber-sleeved connectors in place of the discarded capacitor and leave the Emergency unit, with its grouping connector, inside the refrigerator motor compartment. The motor will now operate normally. You have safeguarded that family's food—and health.



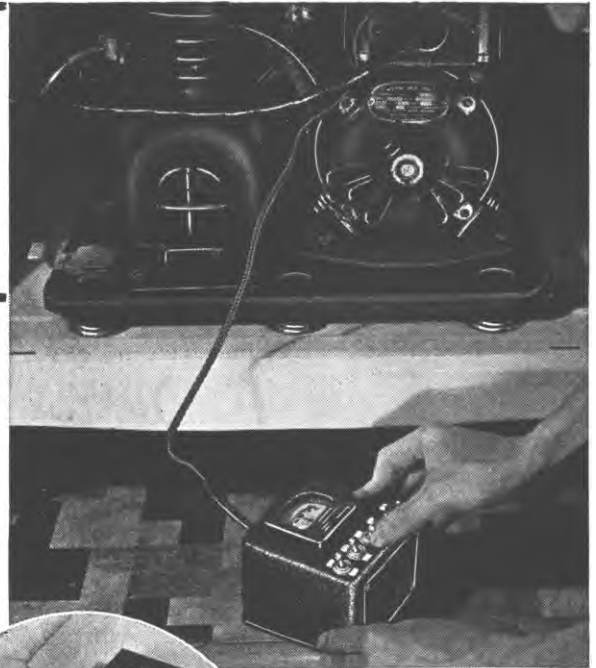
FINALLY — INSTALL PERMANENT UNIT

But don't stop here. The Emergency Capacitor is not for permanent service. Such a unit necessarily costs more than an exact-duplicate unit. So at your convenience, pick up the right replacement at your AEROVOX jobber, and install it permanently in place of the Emergency unit. Thus you have our up-to-the-minute First Aid treatment for sick electric refrigerators. Likewise the means of gaining an outstanding reputation as the electric refrigerator serviceman who "gets 'em started in a jiffy."

These two aids . . . the Emergency Capacitor and the Capacitor Selector . . . permit prompt servicing of capacitor-type refrigerator motors. There's no guessing, fussing, stalling. You make the emergency replacement immediately, and install permanent replacement at your convenience. All of which spells greater good will, a growing reputation, and real servicing profits.

Ask . . .

Get further facts regarding this amazing first-aid technique. Ask to see these items. Better still, order a kit TODAY . . . and cash in on this sure-shot refrigerator servicing.



CAPACITOR SELECTOR

If in doubt regarding capacity required, use this simple instrument. Clip in place of discarded unit. Throw first toggle switch (65 mfd.), check starting time, and see that voltmeter reading doesn't exceed 138, red line on scale. Try other switches. When adequate starting torque, within 3 seconds' start, below 138 volt peak, is attained, total required capacity from "On" switches. Use capacitor of that value, for replacement.

EMERGENCY CAPACITOR

A truly universal capacitor. Any capacity from 17½ to 152½ mfd. Determine required capacity—from discarded unit's label, from motor nameplate, from AEROVOX listings—then plug in required sections (see above). Clip in place. Presto! Motor gets going. Later, when convenient, install permanent AEROVOX replacement.

Complete Kit Model No. 87
Comprising Capacitor Selector
and two Emergency Capacitors,
with latest replacement listings.

\$18.00

DEALER'S
SERVICEMEN'S
NET COST

Capacitor Selector Model No. 85 \$10.00
Emergency Capacitor Model No. 86 \$4.00 each

AEROVOX MOTOR-STARTING CAPACITORS

FOR permanent replacements, AEROVOX offers the most extensive line of both standard and exact-duplicate capacitors now available.

These units are listed for ready identification and selection under motor manufacturer's name, including manufacturer's part number, Aerovox catalog number, capacity, AC voltage, dimensions, illustration, list price, and other essential data, in the AEROVOX INDUSTRIAL CAPACITOR CATALOG, copy of which will be sent to you on request, or given to you by your local jobber.

Also, for your convenience, these listings are available as a wall chart which you will find at your jobber's.

As pioneer of high-capacity electrolytics for motor-starting functions, and as the producer of the greater portion of the two million or more units in daily use, AEROVOX can best serve your replacement requirements with a thorough background of experience, the most extensive data available, and a product that is fully tried, tested and perfected. ASK YOUR JOBBER FOR FURTHER DETAILS, OR WRITE AEROVOX DIRECT.



EXACT DUPLICATE—UNIVERSAL ELECTROLYTIC CAPACITORS

For Replacement in Refrigerators, Oil Burners and Other
Motor Driven Equipment

ELECTROLYTIC CAPACITOR REPLACEMENTS



A concise list of popular types of capacitors arranged according to name and original part number of manufacturers for whom the various units were originally made; also suggested Standard AeroVox Universal Replacement if exact duplicate unit is not immediately available. This listing is especially intended for those engaged in servicing electric refrigerators, oil burners and other fractional horsepower motor equipment employing capacitors.



Manufacturer and Mfrs. Part No.	A.C. Voltage	EXACT DUPLICATE REPLACEMENT					UNIVERSAL REPLACEMENT				
		Aerovox Cat. No.	Cap. Mfds.	List Price	Net Price	Dimensions	Aerovox Cat. No.	Cap. Mfds.	List Price	Net Price	Dimensions
APEX ELEC. MFG. CO.											
88021*	110	101	115	2.50	1.75	3 1/2 x 3 1/2 x 2					
88022*	110	208	150	3.00	2.10	3 1/2 x 3 1/2 x 2					
88023*	220	209	40	4.50	3.15	3 1/2 x 3 1/2 x 2					
88026**	110	160	124-138	1.50	1.05	1 3/8 x 3 1/4					
42480***	110	161	115	2.60	1.82	2 x 4 1/8	160	124-138	1.50	1.05	1 3/8 x 3 1/4
BALDOR ELEC. CO.											
_____*	110	101	115	2.50	1.75	3 1/2 x 3 1/2 x 2					
_____*	110	104	115	2.50	1.75	4 1/2 x 4 1/2 x 1 1/4					
_____*	110	105	150	3.00	2.10	4 1/2 x 4 1/2 x 1 1/8					
_____**	110	160	124-138	1.50	1.05	1 3/8 x 3 1/4					
_____**	110	195	108-120	1.40	.98	1 3/8 x 3 1/4					
_____**	110	196	75-84	1.30	.91	1 3/8 x 3 1/4					
BLACK & DECKER ELEC. CO.											
0-4270†	110	102	75	2.30	1.61	2 1/2 x 4 1/8	196	75-84	1.30	.91	1 3/8 x 3 1/4
_____*	110	105	150	3.00	2.10	4 1/2 x 4 1/2 x 1 1/8					
_____**	110	196	75-84	1.30	.91	1 3/8 x 3 1/4					
BROWN-BROCKMEYER CO., INC.											
_____†	110	126	135	2.80	1.96	2 1/2 x 4 1/8	171	145-162	1.80	1.26	1 3/8 x 3 1/4
_____†	110	146	80	2.35	1.65	2 x 4 1/8	180	86-96	1.35	.95	1 3/8 x 3 1/4
_____**	110	164	100	2.40	1.68	2 x 4 1/8	162	108-120	1.40	.98	1 3/8 x 3 1/4
_____**	110	166	50	2.25	1.58	2 x 4 1/8	193	53-60	1.25	.88	1 3/8 x 3 1/4
_____**	110	188	150	3.00	2.10	2 1/2 x 4 1/8	197	161-180	2.00	1.40	2 x 3 1/8
CENTURY ELEC. CO.											
110940*	110	168	43-48	1.20	.84	1 3/8 x 3 1/4					
110950**	110	193	53-60	1.25	.88	1 3/8 x 3 1/4					
110960**	110	167	64-72	1.25	.88	1 3/8 x 3 1/4					
110970**	110	196	75-84	1.30	.91	1 3/8 x 3 1/4					
110980**	110	180	86-96	1.35	.95	1 3/8 x 3 1/4					
110980**	110	162	108-120	1.40	.98	1 3/8 x 3 1/4					
110100**	110	160	124-138	1.50	1.05	1 3/8 x 3 1/4					
110115**	110	182	145-162	1.80	1.26	2 x 3 3/8					
110135**	110	187	161-180	2.00	1.40	2 x 3 3/8					
110150**	110	197	161-180	2.00	1.40	2 x 3 3/8					
12018-2**	110	188	150	3.00	2.10	2 1/2 x 4 1/8	197	161-180	2.00	1.40	2 x 3 1/8
130050**	110	166	50	2.25	1.58	2 x 4 1/8	193	53-60	1.25	.88	1 3/8 x 3 1/4
130080**	110	154	80	2.45	1.72	2 x 4 1/8	180	86-96	1.35	.95	1 3/8 x 3 1/4
130100**	110	164	100	2.40	1.68	2 x 4 1/8	162	108-120	1.40	.98	1 3/8 x 3 1/4
130115**	110	165	115	2.50	1.75	2 x 4 1/8	160	124-138	1.50	1.05	1 3/8 x 3 1/4
130135†	110	126	135	2.80	1.96	2 1/2 x 4 1/8	171	145-162	1.80	1.26	1 3/8 x 3 1/4
130150**	110	188	150	3.00	2.10	2 1/2 x 4 1/8	197	161-180	2.00	1.40	2 x 3 1/8
DELCO PROD. CORP.											
1056393**	110	160	124-138	1.50	1.05	1 3/8 x 3 1/4					
1056792**	110	171	145-162	1.80	1.26	1 3/8 x 3 1/4					
1057380**	110	180	86-96	1.35	.95	1 3/8 x 3 1/4					
1057381**	110	171	145-162	1.80	1.26	1 3/8 x 3 1/4					
1057382**	110	197	161-180	2.00	1.40	2 x 3 3/8					
1057384**	220	202	26-30	2.20	1.54	1 3/8 x 3 1/4					
1057415**	110	160	124-138	1.50	1.05	1 3/8 x 3 1/4					
1061445†	110	106	115	2.50	1.75	2 1/2 x 4 1/8	160	124-138	1.50	1.05	1 3/8 x 3 1/4
1061447†	110	110	115	2.50	1.75	2 1/2 x 4 1/8	160	124-138	1.50	1.05	1 3/8 x 3 1/4
1062558†	110	107	80	2.35	1.65	2 1/2 x 4 1/8	180	86-96	1.35	.95	1 3/8 x 3 1/4
1062880†	220	108	29	3.50	2.45	2 1/2 x 4 1/8					
1062882†	110	107	80	2.35	1.65	2 1/2 x 4 1/8	180	86-96	1.35	.95	1 3/8 x 3 1/4
1062883†	110	110	115	2.50	1.75	2 1/2 x 4 1/8	160	124-138	1.50	1.05	1 3/8 x 3 1/4
1062888†	110	111	95	2.40	1.68	2 1/2 x 4 1/8	162	108-120	1.40	.98	1 3/8 x 3 1/4
1063865*	110	101	115	2.50	1.75	3 1/2 x 3 1/2 x 2					
1063866*	220	113	29	3.50	2.45	3 1/2 x 3 1/2 x 2					
1063868*	110	116	100	2.20	1.54	3 1/2 x 3 1/2 x 2					
1063990*	110	101	115	2.50	1.75	3 1/2 x 3 1/2 x 2					
1063991*	220	113	29	3.50	2.45	3 1/2 x 3 1/2 x 2					
1063993*	110	116	100	2.20	1.54	3 1/2 x 3 1/2 x 2					
1066300*	110	101	115	2.50	1.75	3 1/2 x 3 1/2 x 2					
1066301*	110	116	100	2.20	1.54	3 1/2 x 3 1/2 x 2					
1066302*	220	113	29	3.50	2.45	3 1/2 x 3 1/2 x 2					
1066303*	110	200	135	2.80	1.96	3 1/2 x 3 1/2 x 2					

* These units are furnished with insulating containers for insulating the capacitor from the motor.
 ** These units are furnished with outside insulating cardboard tube covers.
 *** These units are furnished with outside insulating cardboard tube covers and metal end caps.
 † Sections of these units are insulated from the can internally.

(Continued on next page)



Manufacturer and Mfrs. Part No.	A.C. Voltage	EXACT DUPLICATE REPLACEMENT					UNIVERSAL REPLACEMENT				
		Aerovox Cat. No.	Cap. Mfds.	List Price	Net Price	Dimensions	Aerovox Cat. No.	Cap. Mfds.	List Price	Net Price	Dimensions
GENERAL ELEC. CO.											
H4206674-GR5†	110	123	115	2.50	1.75	2 1/2 x 4 1/8	160	124-138	1.50	1.05	1 3/8 x 3 1/4
H4206673-GR7†	110	126	135	2.80	1.96	2 1/2 x 4 1/8	171	145-162	1.80	1.26	1 3/8 x 3 1/4
K3995073-12	110	206	378-420	4.50	3.15	2 x 4 1/8					
K3995073-15	110	182	145-162	1.80	1.26	2 x 3 1/8					
K4029710-AB1	110	182	145-162	1.80	1.26	2 x 3 1/8					
K5081778-AA2**	110	160	124-138	1.50	1.05	1 3/8 x 3 1/4					
K5081778-AA3**	110	162	108-120	1.40	.98	1 3/8 x 3 1/4					
K5081778-AB1**	110	162	108-120	1.40	.98	1 3/8 x 3 1/4					
K5081778-AB5	110	171	145-162	1.80	1.26	1 3/8 x 3 1/4					
K5081778-AF7**	110	180	86-96	1.35	.95	1 3/8 x 3 1/4					
K5081778-AF3**	110	160	124-138	1.50	1.05	1 3/8 x 3 1/4					
K5081778-AD1**	110	197	161-180	2.00	1.40	2 x 3 1/8					
K5081778-AA4**	110	196	75-84	1.30	.91	1 3/8 x 3 1/4					
K5081778-AA5**	110	180	86-96	1.35	.95	1 3/8 x 3 1/4					
K5029710-AB1	110	182	145-162	1.80	1.26	2 x 3 1/8					
K5029710-AC2	110	206	378-420	4.50	3.15	2 x 4 1/8					
K5029710-AD2**	110	197	161-180	2.00	1.40	2 x 3 1/8					
K5029710-AD1**	110	192	216-240	2.70	1.89	2 x 3 1/8					
K5243119-1	110	160	124-138	1.50	1.05	1 3/8 x 3 1/4					
K5243119-2	110	171	145-162	1.80	1.26	1 3/8 x 3 1/4					
9CG-101S2	110	160	124-138	1.50	1.05	1 3/8 x 3 1/4					
9CG-101S10	110	162	108-120	1.40	.98	1 3/8 x 3 1/4					
9CG-102F**	110	141	115	2.60	1.82	2 1/2 x 5 1/4	160	124-138	1.50	1.05	1 3/8 x 3 1/4
9CG-102S14	110	171	145-162	1.80	1.26	1 3/8 x 3 1/4					
9CG-102S16	110	171	145-162	1.80	1.26	1 3/8 x 3 1/4					
9CG-102S30	110	160	124-138	1.50	1.05	1 3/8 x 3 1/4					
9CG-102S31	110	160	124-138	1.50	1.05	1 3/8 x 3 1/4					
9CG-102S34	110	160	124-138	1.50	1.05	1 3/8 x 3 1/4					
9CG-102S47	110	171	145-162	1.80	1.26	1 3/8 x 3 1/4					
9CG-103S6	110	182	145-162	1.80	1.26	2 x 3 1/8					
9CG-104S36	110	149	65	2.30	1.61	2 x 4 1/8	176	70-78	1.30	.91	1 3/8 x 3 1/4
46-2157**	110	188	150	3.00	2.10	2 1/2 x 4 1/8	197	161-180	2.00	1.40	2 x 3 1/8
GRIGSBY GRUNOW CO.											
22846†	110	127	115	2.50	1.75	3 x 4 1/8	160	124-138	1.50	1.05	1 3/8 x 3 1/4
23907†	110	122	115	2.50	1.75	2 1/2 x 4 1/8	160	124-138	1.50	1.05	1 3/8 x 3 1/4
GRUNOW (General Household Utilities Co.)											
5929-1 (6487)† For JK units	110	159A	53-60	2.00	1.40	3 1/2 x 3 1/2 x 2					
5929-1 (6487)† For D units	110	159B	80	2.10	1.47	3 1/2 x 3 1/2 x 2					
HOLTZER CABOT ELEC. CO.											
101535**	110	198	161-180	2.00	1.40	1 3/8 x 4 1/4					
102356**	110	193	53-60	1.25	.88	1 3/8 x 3 1/4					
LELAND ELEC. CO.											
1172-1*	110	104	115	2.50	1.75	4 1/2 x 4 1/2 x 1 1/4					
1172-2*	110	105	150	3.00	2.10	4 1/2 x 4 1/2 x 1 1/8					
1172-4*	110	159B	80	2.10	1.47	3 1/2 x 3 1/2 x 2					
1172-5*	220	216	29	3.50	2.45	4 1/2 x 4 1/2 x 1 1/4					
1173-1†	110	110	115	2.50	1.75	2 1/2 x 4 1/8	160	124-138	1.50	1.05	1 3/8 x 3 1/4
1173-2**	110	166	50	2.25	1.58	2 x 4 1/8	193	53-60	1.25	.88	1 3/8 x 3 1/4
1173-3†	110	107	80	2.35	1.65	2 1/2 x 4 1/8	180	86-96	1.35	.95	1 3/8 x 3 1/4
1173-5†	110	142	100	2.40	1.68	2 1/2 x 4 1/8	162	108-120	1.40	.98	1 3/8 x 3 1/4
1173-6**	110	188	150	3.00	2.10	2 1/2 x 4 1/8	197	161-180	2.00	1.40	2 x 3 1/8
1173-7†	110	142	100	2.40	1.68	2 1/2 x 4 1/8	162	108-120	1.40	.98	1 3/8 x 3 1/4
1173-9†	220	108	29	3.50	2.45	2 1/2 x 4 1/8					
1448-1†	110	142	100	2.40	1.68	2 1/2 x 4 1/8	162	108-120	1.40	.98	1 3/8 x 3 1/4
1499-1†	110	146	80	2.35	1.65	2 x 4 1/8	180	86-96	1.35	.96	1 3/8 x 3 1/4
1499-6*	220	216	29	3.50	2.45	4 1/2 x 4 1/2 x 1 1/4					
1589-6**	110	193	53-60	1.25	.88	1 3/8 x 3 1/4					
1589-9**	110	196	75-84	1.30	.91	1 3/8 x 3 1/4					
1589-10**	110	180	86-96	1.35	.95	1 3/8 x 3 1/4					
1589-11**	110	194	97-107	1.40	.98	1 3/8 x 3 1/4					
1589-12**	110	162	108-120	1.40	.98	1 3/8 x 3 1/4					
1589-13**	110	160	124-138	1.50	1.05	1 3/8 x 3 1/4					
1589-14**	110	182	145-162	1.80	1.26	2 x 3 1/8					
LELAND, LTD.											
LC29009-3**	110	162	108-120	1.40	.98	1 3/8 x 3 1/4					
LC29009-8**	110	198	161-180	2.00	1.40	1 3/8 x 4 1/4					
MARATHON ELEC. MFG. CO.											
—*	110	129	175	3.40	2.38	4 1/2 x 4 1/2 x 1 7/8					
—**	110	104	115	2.50	1.75	4 1/2 x 4 1/2 x 4 1/4					
—***	110	162	108-120	1.40	.98	1 3/8 x 3 1/4					
2277*	110	105	150	3.00	2.10	4 1/2 x 4 1/2 x 1 3/8					
2754**	220	202	26-30	2.20	1.54	1 3/8 x 3 1/4					
2912**	110	207	270-300	3.50	2.45	2 x 3 1/8					
MASTER ELEC. CO.											
51474†	110	121	100	2.20	1.54	4 1/2 x 4 1/2 x 1 1/4					
52193**	110	195	108-120	1.40	.98	1 3/8 x 3 1/4					
52378**	110	160	124-138	1.50	1.05	1 3/8 x 3 1/4					
52445**	110	198	161-180	2.00	1.40	1 3/8 x 4 1/4					
OHIO ELEC. MFG. CO.											
4457-E**	110	168	43-48	1.90	.84	1 3/8 x 3 1/4					
4457-F**	110	193	53-60	1.25	.88	1 3/8 x 3 1/4					
4457-G**	110	167	64-72	1.25	.88	1 3/8 x 3 1/4					
4457-H**	110	176	70-78	1.30	.91	1 3/8 x 3 1/4					
4457-I**	110	196	75-84	1.30	.91	1 3/8 x 3 1/4					
4457-J**	110	180	86-96	1.35	.95	1 3/8 x 3 1/4					
4457-L**	110	162	108-120	1.40	.98	1 3/8 x 3 1/4					
4457-M**	110	160	124-138	1.50	1.05	1 3/8 x 3 1/4					
4457-N**	110	171	145-162	1.80	1.26	1 3/8 x 3 1/4					
4457-O**	110	198	161-180	2.00	1.40	1 3/8 x 4 1/4					

* These units are furnished with insulating containers for insulating the capacitor from the motor. (Continued on next page)
 ** These units are furnished with outside insulating cardboard tube covers.
 *** These units are furnished with outside insulating cardboard tube covers and metal end caps.
 † Sections of these units are insulated from the can internally.



Manufacturer and Mfrs. Part No.	A.C. Voltage	EXACT DUPLICATE REPLACEMENT					UNIVERSAL REPLACEMENT				
		Aerovox Cat. No.	Cap. Mfds.	List Price	Net Price	Dimensions	Aerovox Cat. No.	Cap. Mfds.	List Price	Net Price	Dimensions
OHIO ELEC. MFG. CO. (Continued)											
4457-R**	110	192	216-240	2.70	1.89	2 x3 1/8					
4457-T**	110	207	270-300	3.50	2.45	2 x3 1/8					
4457-U**	110	210	324-360	4.00	2.80	2 x4 1/8					
4457-YC**	220	202	26-30	2.20	1.54	1 3/8 x3 1/4					
†	110	123	115	2.50	1.75	2 1/2 x4 1/8	160	124-138	1.50	1.05	1 3/8 x3 1/4
†	110	131	100	2.40	1.68	2 1/2 x4 1/8	162	108-120	1.40	.98	1 3/8 x3 1/4
†	220	133	25	3.00	2.10	2 1/2 x4 1/8					
ROBBINS & MYERS, INC.											
C68475-1	110	210	324-360	4.00	2.80	2 x4 1/8					
D20250-1**	110	193	52-60	1.25	.88	1 3/8 x3 1/4					
D20250-2**	110	176	70-78	1.30	.91	1 3/8 x3 1/4					
D20250-3**	110	180	86-96	1.35	.95	1 3/8 x3 1/4					
D20250-4**	110	162	108-120	1.40	.98	1 3/8 x3 1/4					
D20250-5**	110	160	124-138	1.50	1.05	1 3/8 x3 1/4					
D20250-6**	110	171	145-162	1.80	1.26	1 3/8 x3 1/4					
D20250-7**	110	198	161-180	2.00	1.40	1 3/8 x4 1/4					
D20250-9	110	192	216-240	2.70	1.89	2 x3 1/8					
D20250-11**	110	192	216-240	2.70	1.89	2 x3 1/8					
D20250-12	110	226	270-300	4.50	3.15	2 x4 1/8					
D20250-14	110	210	324-360	4.00	2.80	2 x4 1/8					
D20251-1†	110	146	80	2.35	1.65	2 x4 1/8	180	86-96	1.35	.95	1 3/8 x3 1/4
D20251-2	110	147	108-120	2.40	1.68	2 x4 1/8	162	108-120	1.40	.98	1 3/8 x3 1/4
D20251-3†	110	140	115	2.50	1.75	2 x4 1/8	160	124-138	1.50	1.05	1 3/8 x3 1/4
D20251-4	110	148	145-162	2.80	1.96	2 1/2 x4 1/8	171	145-162	1.80	1.26	1 3/8 x3 1/4
D20252-6*	110	103	80	2.35	1.65	4 1/2 x4 1/2 x1 1/4					
D20252-8†	110	121	100	2.20	1.54	4 1/2 x4 1/2 x1 1/4					
D20252-9*	110	104	115	2.50	1.75	4 1/2 x4 1/2 x1 1/4					
D20252-10*	110	104	115	2.50	1.75	1 1/2 x4 1/2 x1 1/4					
D20252-12*	110	105	150	3.00	2.10	1 1/2 x4 1/2 x1 1/4					
D20253-1*	110	104	115	2.50	1.75	1 1/2 x4 1/2 x1 1/4					
D20253-2*	110	105	150	3.00	2.10	1 1/2 x4 1/2 x1 1/4					
D21464-1	110	160	124-138	1.50	1.05	1 3/8 x3 1/4					
D21527-1	110	198	161-180	2.00	1.40	1 3/8 x4 1/4					
D21527-2	110	206	378-420	4.50	3.15	2 x4 1/8					
D21527-3	110	226	270-300	4.50	3.15	2 x4 1/8					
SUNLIGHT ELEC. CO. (See Delco)											
WAGNER ELEC. CORP.											
HC-7482-E	110	162	108-120	1.40	.98	1 3/8 x3 1/4					
HC-7482-F**	110	162	108-120	1.40	.98	1 3/8 x3 1/4					
HC-7638-B**	110	160	124-138	1.50	1.05	1 3/8 x3 1/4					
HC-7672-C**	110	210	320-360	4.00	2.80	2 x4 1/8					
HC-7673-B**	110	207	270-300	3.50	2.45	2 x3 1/8					
HC-7684-A**	110	197	161-180	2.00	1.40	2 x3 1/8					
HC-7712-B**	110	207	270-300	3.50	2.45	2 x3 1/8					
HC-7714-B**	220	202	26-30	2.20	1.54	1 3/8 x3 1/4					
HC-7753-A**	110	182	145-162	1.80	1.26	2 x3 1/8					
HC-7757**	110	212	216-240	2.70	1.89	2 1/2 x3 1/8					
HC-7771**	220	202	26-30	2.20	1.54	1 3/8 x3 1/4					
HC-7784**	110	162	108-120	1.40	.98	1 3/8 x3 1/4					
HC-7918**	110	214	161-180	2.00	1.40	2 1/2 x3 1/8					
HC-8228-A**	110	196	75-84	1.30	.91	1 3/8 x3 1/4					
HD-4500-D1*	110	116	100	2.20	1.54	3 1/2 x3 1/2 x2					
HD-4500-D2*	110	101	115	2.50	1.75	3 1/2 x3 1/2 x2					
HD-4500-D3*	220	139	25	3.00	2.10	3 1/2 x3 1/2 x2					
HD-4892*	220	139	25	3.00	2.10	3 1/2 x3 1/2 x2					
HD-5223-D1*	110	116	100	2.20	1.54	3 1/2 x3 1/2 x2					
HD-5326-A1†	110	157	100	2.20	1.54	3 1/2 x3 1/2 x2					
HD-5400-A1†	110	101	115	2.50	1.75	3 1/2 x3 1/2 x2					
HD-5418*	220	215	25	3.00	2.10	3 1/2 x3 1/2 x2					
HD-5427*	220	113	29	3.50	2.45	3 1/2 x3 1/2 x2					
WESTINGHOUSE ELEC. & MFG. CO.											
SH-32291†	110	110	115	2.50	1.75	2 1/2 x4 1/8	160	124-138	1.50	1.05	1 3/8 x3 1/4
S-848578*	110	101	115	2.50	1.75	3 1/2 x3 1/2 x2					
S-857865*	220	113	29	3.50	2.45	3 1/2 x3 1/2 x2					
S-84101†	110	101	115	2.50	1.75	3 1/2 x3 1/2 x2					
S-857992*	110	208	150	3.00	2.10	3 1/2 x3 1/2 x2					
S-887696*	220	209	40	4.50	3.15	3 1/2 x3 1/2 x2					
987163*	110	137	115	2.50	1.75	3 1/2 x3 1/2 x2					
987252†	110	165	115	2.50	1.75	2 x4 1/8	160	124-138	1.50	1.05	1 3/8 x3 1/4
987450	110	147	108-120	2.40	1.68	2 x4 1/8	162	108-120	1.40	.98	1 3/8 x3 1/4
987539	110	210	324-360	4.00	2.80	2 x4 1/8					
987583	110	146	86-96	2.35	1.65	2 x4 1/8	180	86-96	1.35	.95	1 3/8 x3 1/4
987591	110	188	161-180	3.00	2.10	2 1/2 x4 1/8	197	161-180	2.00	1.40	2 x3 1/8
1025677	110	148	145-162	2.80	1.96	2 1/2 x4 1/8	171	145-162	1.80	1.26	1 3/8 x3 1/4
1030543**	110	192	216-240	2.70	1.89	2 x3 1/8					
1030669*	110	213	243-270	3.00	2.10	2 x3 1/8					
1030670**	110	206	378-420	4.50	3.15	2 x4 1/8					
1030710**	110	197	161-180	2.00	1.40	2 x3 1/8					
1030813**	110	160	124-138	1.50	1.05	1 3/8 x3 1/4					
1030818	110	225	189-210	3.40	2.38	2 x4 1/8					
1030825†	110	140	115	2.50	1.75	2 x4 1/8	160	124-138	1.50	1.05	1 3/8 x3 1/4
1124812	110	160	124-138	1.50	1.05	1 3/8 x3 1/4					
1124813	110	198	161-180	2.00	1.40	1 3/8 x4 1/4					
1124817	110	210	324-360	4.00	2.80	2 x4 1/8					
1124818	110	206	378-420	4.50	3.15	2 x4 1/8					
1127763	110	226	270-300	4.50	3.15	2 x4 1/8					

* These units are furnished with insulating containers for insulating the capacitor from the motor.
 ** These units are furnished with outside insulating cardboard tube covers.
 *** These units are furnished with outside insulating cardboard tube covers and metal end caps.
 † Sections of these units are insulated from the can internally.



STANDARD UNIVERSAL ELECTROLYTIC REPLACEMENT CAPACITORS

Many of these Standard Universal replacements are also Exact Duplicate replacements. They have the same AEROVOX catalog numbers shown in the foregoing Exact Duplicate-Universal Replacement listing. This list is intended to simplify the selection of required capacitor when manufacturer's part number and AEROVOX catalog number are not known. Information given: capacity range, voltage rating, dimensions and type of container may help determine capacitor required in absence of original unit or name-plate data. This listing also ideal for use with Capacitor Selector described on Page K-51.

ULTRA-COMPACT 110 VOLTS A.C. IN 3/8" AND 2" ROUND CANS WITH INSULATING TUBES

AEROVOX Cat. No.	CAPACITY MFDS.		A.C. Voltage	DIMENSIONS D.H. or L.W.D.	Figure No.	List Price	Net Price
	Actual Range	Nominal Range					
217	20-24	20	110	1 3/8 x 3 1/4	18A	\$1.10	\$.77
218	26-30	25	110	1 3/8 x 3 1/4	18A	1.10	.77
219	32-36	30	110	1 3/8 x 3 1/4	18A	1.20	.84
220	38-42	35	110	1 3/8 x 3 1/4	18A	1.20	.84
168	43-48	40	110	1 3/8 x 3 1/4	18A	1.20	.84
193	53-60	50	110	1 3/8 x 3 1/4	18A	1.25	.88
167	64-72	60	110	1 3/8 x 3 1/4	18A	1.25	.88
176	70-78	65	110	1 3/8 x 3 1/4	18A	1.30	.91
196	75-84	70	110	1 3/8 x 3 1/4	18A	1.30	.91
180	86-96	80	110	1 3/8 x 3 1/4	18A	1.35	.95
194	97-107	90	110	1 3/8 x 3 1/4	18A	1.40	.98
162	108-120	100	110	1 3/8 x 3 1/4	18A	1.40	.98
160	124-138	115	110	1 3/8 x 3 1/4	18A	1.50	1.05
171	145-162	135	110	1 3/8 x 3 1/4	18A	1.80	1.26
198	161-180	150	110	1 3/8 x 4 1/4	18A	2.00	1.40
192	216-240	200	110	2 x 3 1/8	18A	2.70	1.89
207	270-300	250	110	2 x 3 1/8	18A	3.50	2.45
210	324-360	300	110	2 x 4 1/8	18A	4.00	2.80
206	378-420	350	110	2 x 4 1/8	18A	4.50	3.15



Figure 18A

HEAVY-DUTY 110 VOLTS A.C. IN 2" AND 2 1/2" ROUND CANS

221	32-36	30	110	2 x 4 1/8	19D	\$2.20	\$1.54
166	53-60	50	110	2 x 4 1/8	19D	2.25	1.58
149	64-72	65	110	2 x 4 1/8	19D	2.30	1.61
146	86-96	80	110	2 x 4 1/8	19D	2.35	1.65
222	97-107	90	110	2 x 4 1/8	19D	2.40	1.68
147	108-120	100	110	2 x 4 1/8	19D	2.40	1.68
140	124-138	115	110	2 x 4 1/8	19D	2.50	1.75
223	145-162	135	110	2 x 4 1/8	19D	2.80	1.96
224	161-180	150	110	2 x 4 1/8	19D	3.00	2.10
225	189-210	175	110	2 x 4 1/8	19D	3.40	2.38
226	270-300	250	110	2 x 4 1/8	19D	4.50	3.15
227	32-36	30	110	2 1/2 x 4 1/8	19D	2.20	1.54
228	53-60	50	110	2 1/2 x 4 1/8	19D	2.25	1.58
229	64-72	60	110	2 1/2 x 4 1/8	19D	2.25	1.58
107	86-96	80	110	2 1/2 x 4 1/8	19D	2.35	1.65
230	97-107	90	110	2 1/2 x 4 1/8	19D	2.40	1.68
142	108-120	100	110	2 1/2 x 4 1/8	19D	2.40	1.68
110	124-138	115	110	2 1/2 x 4 1/8	19D	2.50	1.75
148	145-162	135	110	2 1/2 x 4 1/8	19D	2.80	1.96
188	161-180	150	110	2 1/2 x 4 1/8	19D	3.00	2.10
231	189-210	175	110	2 1/2 x 4 1/8	19D	3.40	2.38
232	270-300	250	110	2 1/2 x 4 1/8	19D	4.50	3.15



Figure 19D

ULTRA-COMPACT & HEAVY-DUTY 220 VOLTS A.C. IN 1 3/8" AND 2" ROUND CANS

246	20-24	20	220	1 3/8 x 3 1/4	18A	\$1.90	\$1.33
202	26-30	25	220	1 3/8 x 3 1/4	18A	2.20	1.54
248	32-36	30	220	2 x 4 1/8	19D	2.50	1.75
249	38-42	35	220	2 x 4 1/8	19D	2.80	1.96
250	43-48	40	220	2 x 4 1/8	19D	3.00	2.10
251	53-60	50	220	2 x 5 1/8	19D	3.40	2.38



Figure 12

HEAVY-DUTY 110 VOLTS A.C. IN RECTANGULAR CANS SUPPLIED WITH WITH INSULATING COVERS

233	32-36	30	110	3 1/2 x 3 1/2 x 2	12	\$2.00	\$1.40
159A	53-60	50	110	3 1/2 x 3 1/2 x 2	12	2.00	1.40
234	64-72	60	110	3 1/2 x 3 1/2 x 2	12	2.10	1.47
159B	86-96	80	110	3 1/2 x 3 1/2 x 2	12	2.10	1.47
235	97-107	90	110	3 1/2 x 3 1/2 x 2	12	2.20	1.54
157	108-120	100	110	3 1/2 x 3 1/2 x 2	12	2.20	1.54
137	124-138	115	110	3 1/2 x 3 1/2 x 2	12	2.50	1.75
236	145-162	135	110	3 1/2 x 3 1/2 x 2	12	2.80	1.96
255	161-180	150	110	3 1/2 x 3 1/2 x 2	12	3.00	2.10
237	189-210	175	110	3 1/2 x 3 1/2 x 2	12	3.40	2.38
238	270-300	250	110	3 1/2 x 3 1/2 x 2	12	4.50	3.15

HEAVY-DUTY 110 VOLTS A.C. In Rectangular Cans With Terminal Board for Thermostat Connections

239	32-36	30	110	3 1/2 x 3 1/2 x 2	15A	\$2.00	\$1.40
240	53-60	50	110	3 1/2 x 3 1/2 x 2	15A	2.00	1.40
241	64-72	60	110	3 1/2 x 3 1/2 x 2	15A	2.10	1.47
242	86-96	80	110	3 1/2 x 3 1/2 x 2	15A	2.10	1.47
243	97-107	90	110	3 1/2 x 3 1/2 x 2	15A	2.20	1.54
116	108-120	100	110	3 1/2 x 3 1/2 x 2	15A	2.20	1.54
101	124-138	115	110	3 1/2 x 3 1/2 x 2	15A	2.50	1.75
200	145-162	135	110	3 1/2 x 3 1/2 x 2	15A	2.80	1.96
208	161-180	150	110	3 1/2 x 3 1/2 x 2	15A	3.00	2.10
244	189-210	175	110	3 1/2 x 3 1/2 x 2	15A	3.40	2.38
245	270-300	250	110	3 1/2 x 3 1/2 x 2	15A	4.50	3.15



Figure 15A

HEAVY-DUTY 220 VOLTS A.C. WITH INSULATING COVER

215	26-30	25	220	3 1/2 x 3 1/2 x 2	12	\$3.00	\$2.10
253	32-36	30	220	3 1/2 x 3 1/2 x 2	12	3.50	2.45
254	43-48	40	220	3 1/2 x 3 1/2 x 2	12	4.50	3.15

AEROVOX



EXACT DUPLICATE REPLACEMENT CAPACITORS



**For Use in Electrical Refrigerators,
Oil Burners and Other Motor Driven Equipment**

OIL CAPACITOR REPLACEMENTS

Manufacturer & A.C. Mfrs. Part No. Voltage	Cap. Mfds.	Aerovox Cat. No.	Dimensions	List Price	Net Price
BALDOR ELECTRIC CO.					
BE-102	330	2	501	1 1/4 x 4 1/2 x 1 1/4	3.40 2.38
BE-103	330	3	502	1 1/4 x 4 1/2 x 1 1/4	3.65 2.56
BE-104	330	4	503	1 1/4 x 4 1/2 x 1 1/4	4.10 2.87
BE-105	330	6	504	1 1/4 x 4 1/2 x 1 1/4	5.00 3.50
BE-108	330	8	505	2 1/4 x 4 1/2 x 1 1/4	6.10 4.27
BE-202	330	2	506	1 1/8 x 3 1/2 x 3/8	3.40 2.38
BE-203	330	3	507	1 1/8 x 3 1/2 x 3/8	3.65 2.56
BE-301	330	1	508	4 1/2 x 3 1/2 x 1	2.75 1.93
BE-302	330	2	509	4 1/2 x 3 1/2 x 1 1/4	3.40 2.38
BE-303	330	3	510	4 1/2 x 3 1/2 x 1 1/2	3.65 2.56
BE-304	330	4	511	4 1/2 x 3 1/2 x 1 1/2	4.10 2.87
BE-306	330	6	512	4 1/2 x 3 1/2 x 2	5.00 3.50
BE-308	330	8	513	4 1/2 x 3 1/2 x 2 1/2	6.10 4.27
BE-401	165	1	514	4 1/2 x 3 1/2 x 1	2.50 1.75
BE-402	165	2	515	4 1/2 x 3 1/2 x 1	3.10 2.17
BE-403	165	3	516	4 1/2 x 3 1/2 x 1 1/4	3.30 2.31
BE-404	165	4	517	4 1/2 x 3 1/2 x 1 1/2	3.70 2.59
BE-405	165	5	518	4 1/2 x 3 1/2 x 1 1/2	3.85 2.70
BE-406	165	6	519	4 1/2 x 3 1/2 x 1 1/2	4.25 2.98
BE-408	165	8	520	4 1/2 x 3 1/2 x 1 1/2	5.10 3.57
BE-502	330	2	522	3 1/2 x 3 1/2 x 1 1/2	3.40 2.38
BE-503	330	3	523	3 1/2 x 3 1/2 x 1 1/2	3.65 2.56
BE-504	330	4	524	3 1/2 x 3 1/2 x 1 1/2	4.10 2.87
BE-505	330	5	525	3 1/2 x 3 1/2 x 2	4.50 3.15
BE-601	330	1	526	4 1/2 x 4 1/2 x 1 1/2	2.75 1.93
BE-602	330	2	527	4 1/2 x 4 1/2 x 1 1/2	3.40 2.38
BE-603	330	3	528	4 1/2 x 4 1/2 x 1 1/2	3.65 2.56
BE-604	330	4	529	4 1/2 x 4 1/2 x 1 1/2	4.10 2.87
BE-605	330	5	530	4 1/2 x 4 1/2 x 1 1/2	4.50 3.15
BE-606	330	6	531	4 1/2 x 4 1/2 x 1 1/2	5.00 3.50
BE-608	330	8	532	4 1/2 x 4 1/2 x 1 1/2	6.10 4.27
CENTURY ELECTRIC CO.					
---	330	3.75	614	3 x 1 1/8 x 4	4.00 2.80
---	330	5	618	3 x 1 1/8 x 4	4.50 3.15
---	330	10	619	3 1/4 x 2 1/2 x 4 1/4	7.00 4.90
---	330	20	620	3 1/4 x 4 1/2 x 5 1/4	11.00 7.70
---	330	7.5	621	3 x 2 1/4 x 4	5.80 4.06
16008	165	8	565	2 1/2 x 5 1/2	5.10 3.57
16007	165	7	623	2 1/2 x 5 1/2	4.50 3.15
160014	165	14	624	4 1/2 x 4 1/2 x 1 1/4	7.50 5.25
CLEVELAND STEEL PRODUCTS CO.					
---	375	2	533	2 x 5 1/2	4.75 3.33
DELCO PRODUCTS CO.					
047727	375	8.5	534	4 1/2 x 3 1/2 x 3 1/2	7.40 5.18
1055074	375	3.5	535	4 1/2 x 3 1/2 x 1 1/4	4.55 3.19
1055347	375	2.0	536	4 1/2 x 3 1/2 x 2 1/4	4.20 2.94
1059555	375	4.4	537	4 1/2 x 3 1/2 x 2 1/4	4.95 3.47
1057535	375	8.5	534	4 1/2 x 3 1/2 x 3 1/2	7.40 5.18
1057536	330	5.2	539	4 1/2 x 3 1/2 x 2 1/2	4.60 3.22
1057537	375	4.4	537	4 1/2 x 3 1/2 x 2 1/4	4.95 3.47
1057538	375	3.5	541	4 1/2 x 3 1/2 x 2	4.55 3.19
1057539	375	2.0	542	4 1/2 x 3 1/2 x 1 1/2	4.20 2.94
048753	330	3	612	3 1/2 x 4 1/2 x 1 1/2	3.65 2.56
1055546	330	6	602	4 x 1 1/8 x 5	4.50 3.15
1064150	330	3	612	3 1/2 x 4 1/2 x 1 1/2	3.65 2.56
1071305	375	3.5	546	2 x 1 1/8 x 5	4.00 2.80
1071306	600	1	547	2 x 1 1/8 x 5	3.90 2.73
1078065	330	5.2	625	3 1/2 x 3 1/2 x 2	4.60 3.22
5305052	330	3	612	3 1/2 x 4 1/2 x 1 1/2	3.65 2.56
5306753	660	1	627	3 1/2 x 3 1/2 x 2	3.50 2.45
5306752	375	3.5	628	3 1/2 x 3 1/2 x 2	4.55 3.19
EMERSON ELECTRIC MFG. CO.					
ESA-102	660	1	548	4 1/2 x 3 1/2 x 1 1/2	3.50 2.45
ESA-202	660	2	549	4 1/2 x 3 1/2 x 2 1/4	4.50 3.15
ESA-302	660	3	550	4 1/2 x 3 1/2 x 3	5.10 3.57
ESA-402	660	4	551	4 1/2 x 3 1/2 x 3 3/8	6.00 4.20
ESA-502	660	5	552	4 1/2 x 3 1/2 x 4 1/2	7.50 5.25
ESA-602	660	6	553	4 1/2 x 3 1/2 x 5 1/4	8.50 5.95
ESA-802	660	8	555	4 1/2 x 3 1/2 x 6 3/4	10.50 7.35
ESA-902	660	9	556	4 1/2 x 3 1/2 x 7 1/2	11.75 8.23
ESA-6012	330	6	512	4 1/2 x 3 1/2 x 2	5.00 3.50
ESA-7012	330	7	558	4 1/2 x 3 1/2 x 2 1/4	5.55 3.89
ESA-8012	330	8	513	4 1/2 x 3 1/2 x 2 1/2	6.10 4.27
ESA-9012	330	9	560	4 1/2 x 3 1/2 x 2 3/4	6.55 4.59

Manufacturer & A.C. Mfrs. Part No. Voltage	Cap. Mfds.	Aerovox Cat. No.	Dimensions	List Price	Net Price
EMERSON ELEC. MFG. CO. (Continued)					
ESA-10012	330	10	561	4 1/2 x 3 1/2 x 3	7.00 4.90
ESA-12012	330	12	562	4 1/2 x 3 1/2 x 3 3/8	8.00 5.60
ESA-14012	330	14	563	4 1/2 x 3 1/2 x 3 7/8	8.65 6.06
ESA-16012	330	16	564	4 1/2 x 3 1/2 x 4 1/4	9.40 6.58
13-0-00B	330	2	629	2 x 4	3.00 2.10
---	165	1.75	630	3 1/2 x 3 1/2 x 1/2	2.90 2.03
A. C. GILBERT					
P9649	165	2	617	1 3/8 x 3 1/4	3.10 2.17
GRUNOW (General Household Utilities Co.)					
5117	330	5.2	539	4 1/2 x 3 1/2 x 2 1/2	4.60 3.22
GRIGSBY GRUNOW CO.					
25036	165	8	565	2 1/2 x 5 1/2	5.10 3.57
HOWELL ELECTRIC MOTORS					
---	440	4	566	1 x 4 x 5	4.25 2.98
---	440	6	567	1 1/2 x 4 x 5	5.50 3.85
---	440	8	568	2 x 4 x 5	6.50 4.55
HOME SANITATION CO.					
---	165	4	569	1 x 2 x 5	3.35 2.35
---	375	4	570	2 x 2 x 5	4.25 2.98
HOLTZER CABOT ELECTRIC CO.					
28650	330	6	512	4 1/2 x 3 1/2 x 2	5.00 3.50
LELAND ELECTRIC CO.					
1170-1	375	4	572	4 1/2 x 3 1/2 x 2	4.65 3.26
1170-2	375	4.5	573	4 1/2 x 3 1/2 x 2 1/4	5.00 3.50
1170-3	375	5	574	4 1/2 x 3 1/2 x 2 1/2	5.40 3.78
1170-4	375	6	575	4 1/2 x 3 1/2 x 2 1/2	6.00 4.20
1170-5	375	8	576	4 1/2 x 3 1/2 x 3 1/2	7.00 4.90
1170-6	375	10	577	4 1/2 x 3 1/2 x 3 3/4	8.50 5.95
1170-7	375	3	578	4 1/2 x 3 1/2 x 1 3/4	4.40 3.08
1170-8	375	2	579	4 1/2 x 3 1/2 x 1 3/8	3.85 2.70
MARATHON ELECTRIC MFG. CO.					
---	550	1	580	4 1/2 x 3 1/2 x 1 1/4	3.50 2.45
---	550	4	581	4 1/2 x 3 1/2 x 3 1/2	6.00 4.20
---	550	5	582	4 1/2 x 3 1/2 x 3 3/8	7.50 5.25
MARTIN BROTHERS					
---	330	3	616	1 1/2 x 2 x 3 1/4	3.65 2.56
---	165	3	631	2 x 3 1/4	3.30 2.31
MASTER ELECTRIC CO.					
50938	440	2.7	583	4 1/2 x 3 1/2 x 1 3/4	4.25 2.98
50939	440	3	584	4 1/2 x 3 1/2 x 1 3/4	4.40 3.08
50940	440	5.5	585	4 1/2 x 3 1/2 x 2 3/4	5.75 4.03
60292	440	2	586	4 1/2 x 3 1/2 x 1 3/4	3.85 2.70
60323	440	4	587	4 1/2 x 3 1/2 x 2 1/2	4.65 3.26
60200	440	3	588	1 1/2 x 4 1/2 x 5	3.95 2.77
60201	440	2	589	1 1/2 x 4 1/2 x 5	3.45 2.42
60199	440	4	590	2 1/4 x 4 1/2 x 5	4.25 2.98
OHIO ELECTRIC MFG. CO.					
4364A	550	2.5	591	2 x 5 1/2	4.80 3.36
4364B	550	3	592	2 x 5 1/2	5.10 3.57
4365A	440	2.25	593	4 1/2 x 3 1/2 x 2 3/8	4.00 2.80
4365B	330	4.5	594	4 1/2 x 3 1/2 x 1 3/4	4.30 3.01
4365C	440	4.5	595	4 1/2 x 3 1/2 x 3 1/2	5.00 3.50
4365D	330	8.5	596	4 1/2 x 3 1/2 x 2 3/4	6.35 4.45
4365E	330	10	597	4 1/2 x 3 1/2 x 3	7.00 4.90
4365F	330	12	562	4 1/2 x 3 1/2 x 3 3/8	8.00 5.60
4365G	440	12	599	4 1/2 x 3 1/2 x 5	9.50 6.65
4365H	440	10	600	4 1/2 x 3 1/2 x 4 1/4	8.50 5.95
4351	330	3	612	3 1/2 x 4 1/2 x 1 1/2	3.65 2.56
4375	330	6	602	1 1/2 x 4 x 5	4.50 3.15
ROBBINS & MYERS, INC.					
---	330	2	603	1 3/8 x 4 1/2 x 2 1/8	3.40 2.38
---	330	3	604	1 1/2 x 4 1/2 x 2 1/8	3.65 2.56
---	330	8	605	1 3/4 x 4 1/2 x 4 1/2	6.10 4.27
---	330	5	606	2 1/4 x 4 1/2 x 2 1/8	4.50 3.15
---	165	5	518	4 1/2 x 3 1/2 x 1 1/2	3.85 2.70
---	165	12	608	4 1/2 x 3 1/2 x 2 1/2	6.80 4.76
D59749-1	330	2	522	3 1/2 x 3 1/2 x 1 1/2	3.40 2.38



Manufacturer & Mfrs. Part No.	A.C. Voltage	Cap. Mfda.	Aerovox Cat. No.	Dimensions	List Price	Net Price
SUNLIGHT ELECTRIC CO.						
5000455	330	5	609	3 $\frac{3}{4}$ x3 $\frac{3}{8}$ x2	4.50	3.15
5000456	330	6	610	3 $\frac{3}{4}$ x3 $\frac{3}{8}$ x2 $\frac{1}{2}$	5.00	3.50
5205371	330	10	633	4 $\frac{1}{2}$ x4 $\frac{1}{2}$ x2 $\frac{1}{2}$	7.00	4.90
TIMKIN SILENT AUTO CO.						
3528Q17	330	3	612	3 $\frac{1}{2}$ x4 $\frac{1}{8}$ x1 $\frac{1}{2}$	3.65	2.56
WAGNER ELECTRIC CORP.						
HD-3444	330	5	615	3 $\frac{3}{4}$ x3 $\frac{3}{8}$ x1 $\frac{1}{2}$	4.50	3.15
HD-5742	220	8	634	2 $\frac{1}{2}$ x5 $\frac{3}{4}$	5.10	3.57
HD-6089	220	12	635	2 $\frac{1}{2}$ x5 $\frac{3}{4}$	6.80	4.76
HC-5902	220	6	636	2 $\frac{1}{2}$ x5 $\frac{3}{4}$	4.25	2.98
HD-5869	220	10	637	2 $\frac{1}{2}$ x5 $\frac{3}{4}$	6.00	4.20
HD-8135	220	4	638	2 x4 $\frac{1}{2}$	3.70	2.69
WESTINGHOUSE ELECTRIC & MFG. CO.						
799966	330	5.2	613	3 $\frac{1}{2}$ x4 $\frac{1}{8}$ x2	4.60	3.22
WILLIAMS OIL-O-MATIC						
EM398A	375	4	572	4 $\frac{1}{2}$ x3 $\frac{1}{2}$ x2	4.65	3.26

STANDARD UNIVERSAL REPLACEMENT OIL CAPACITORS

Many of these Standard Universal replacements are also Exact Duplicate replacements. They have the same AEROVOX catalog numbers shown in the foregoing Exact Duplicate Replacement listing. This list is intended to simplify the selection of required capacitor by AEROVOX Catalog Number when manufacturer's part number is not known. Information given: capacity, voltage, dimensions and type of container may help determine AEROVOX replacement required in absence of original unit or name-plate data.

AEROVOX Cat. No.	A.C. Voltage	Cap. Mfda.	Dimensions D.H. or L.W.D.	List Price	Net Price
634	220	8	2 $\frac{1}{2}$ x5 $\frac{3}{4}$	5.10	3.57
635	220	12	2 $\frac{1}{2}$ x5 $\frac{3}{4}$	6.80	4.76
636	220	6	2 $\frac{1}{2}$ x5 $\frac{3}{4}$	4.25	2.98
637	220	10	2 $\frac{1}{2}$ x5 $\frac{3}{4}$	6.00	4.20
638	220	4	2 x4 $\frac{1}{2}$	3.70	2.59
639	330	1	1 $\frac{3}{8}$ x4 $\frac{1}{8}$	2.75	1.93
640	330	2	2 x3 $\frac{1}{2}$	3.40	2.38
641	330	3	2 x4 $\frac{1}{2}$	3.65	2.56
642	330	4	2 x5 $\frac{3}{4}$	4.10	2.87
643	330	5	2 $\frac{1}{2}$ x4 $\frac{1}{2}$	4.50	3.15
644	330	6	2 $\frac{1}{2}$ x5 $\frac{3}{4}$	5.00	3.50
645	440	1	2 x3 $\frac{1}{2}$	3.00	2.10
646	440	2	2 x4 $\frac{1}{2}$	3.85	2.70
647	440	3	2 $\frac{1}{2}$ x4 $\frac{1}{2}$	4.40	3.08
648	440	4	2 $\frac{1}{2}$ x5 $\frac{3}{4}$	4.65	3.26
508	330	1	4 $\frac{1}{8}$ x3 $\frac{1}{8}$ x1	2.75	1.93
509	330	2	4 $\frac{1}{8}$ x3 $\frac{1}{8}$ x1 $\frac{1}{2}$	3.40	2.38
510	330	3	4 $\frac{1}{8}$ x3 $\frac{1}{8}$ x1 $\frac{3}{8}$	3.65	2.56
511	330	4	4 $\frac{1}{8}$ x3 $\frac{1}{8}$ x1 $\frac{5}{8}$	4.10	2.87
649	330	5	4 $\frac{1}{8}$ x3 $\frac{1}{8}$ x1 $\frac{3}{4}$	4.50	3.15
512	330	6	4 $\frac{1}{8}$ x3 $\frac{1}{8}$ x2	5.00	3.50
558	330	7	4 $\frac{1}{8}$ x3 $\frac{1}{8}$ x2 $\frac{1}{2}$	5.55	3.89
513	330	8	4 $\frac{1}{8}$ x3 $\frac{1}{8}$ x2 $\frac{3}{4}$	6.10	4.27
561	330	10	4 $\frac{1}{8}$ x3 $\frac{1}{8}$ x3	7.00	4.90
562	330	12	4 $\frac{1}{8}$ x3 $\frac{1}{8}$ x3 $\frac{3}{8}$	8.00	5.60
650	440	1	4 $\frac{1}{8}$ x3 $\frac{1}{8}$ x1	3.00	2.10
651	440	2	4 $\frac{1}{8}$ x3 $\frac{1}{8}$ x1 $\frac{1}{2}$	3.85	2.70
584	440	3	4 $\frac{1}{8}$ x3 $\frac{1}{8}$ x1 $\frac{3}{8}$	4.40	3.08
652	440	4	4 $\frac{1}{8}$ x3 $\frac{1}{8}$ x2 $\frac{1}{4}$	4.65	3.26
653	440	5	4 $\frac{1}{8}$ x3 $\frac{1}{8}$ x2 $\frac{3}{8}$	5.40	3.78
654	440	6	4 $\frac{1}{8}$ x3 $\frac{1}{8}$ x2 $\frac{1}{2}$	6.00	4.20
655	440	8	4 $\frac{1}{8}$ x3 $\frac{1}{8}$ x3 $\frac{1}{2}$	7.00	4.90
600	440	10	4 $\frac{1}{8}$ x3 $\frac{1}{8}$ x4 $\frac{1}{2}$	8.50	5.95

NOTE: WRITE US FOR A COMPLETE AEROVOX INDUSTRIAL CAPACITOR REPLACEMENT CATALOG

Replacement capacitors not listed in the above and preceding pages can also be furnished on special order. When ordering units not listed, kindly send us a sample of the unit which has failed in service, together with all available data such as manufacturers' part number, capacity, voltage, ratings, etc.

GUARANTEE AEROVOX ELECTROLYTIC MOTOR-STARTING CAPACITORS

Aerovox Electrolytic A.C. capacitors are made for intermittent duty only, and are usually damaged by the failure of the associated equipment. It is important, therefore, to determine and eliminate the cause of capacitor failure before replacement. In addition, the replacement capacitor should be of proper capacity and voltage rating. The use of a wrong capacitor will usually result in rapid failure. For that reason, AC electrolytic capacitors are guaranteed as follows:

I. 110-VOLT CAPACITORS—

(a) **STARTS**—Heavy-Duty Capacitors (standard foil and gauze), not more than 20 starts per hour, each start not over 3 seconds' duration (except that not over 100 times per year the capacitor may be on the line for periods not exceeding 10 seconds maximum). Ultra-Compact Capacitors (etched foil and reduced gauze) not more than 20 starts per hour, each start not over 1 second duration (except that not over 50 times per year the capacitor may be on line for periods not exceeding 10 seconds maximum).

(b) **VOLTAGE**—not in excess of 125% of the rated voltage during any service period.

(c) **AMBIENT TEMPERATURE**—not to exceed 130° Fahrenheit.

(d) **DAMAGE**—Capacitor shall not have been damaged after shipment by manufacturer.

(e) **MOTOR DEFECTS**—Capacitor shall not have been subjected to abnormal operating conditions resulting from motor and associated defects such as (1) defective or dry bearings; (2) sticky compressor; (3) tight belt; (4) defective centrifugal switch or relay; (5) improper adjustment of thermostat or refrigerator valves. Before applying capacitor, always check (a) centrifugal switch or relay; (b) easy turning of motor and compressor; (c) thermostat and valves, as a prerequisite of the guarantee.

II. ALL OTHER VOLTAGES—

Same as for 110-volt capacitors except that the voltage applied to the units during any service period may not exceed 10% of the rating.

It is recommended that the serviceman should check the following points before leaving the job:

1. Measure the voltage across the capacitor during the starting period. It should not exceed 138 volts for 110-volt Capacitors. For other voltage ratings, it should not exceed 110% of the nominal rating. If the voltage across the capacitor is higher than the limiting value given, it usually indicates a capacitor of too low capacity.

2. Time the duration and frequency of the starting period. It should not exceed the limits given in the guarantee. If the start takes too long, either the capacity of the unit is incorrect—too high or too low—or the associated equipment is defective. Too frequent starts (over 20 per hour) should not be allowed. It usually indicates some defect in the control equipment.

3. Measure the temperature of the capacitor motor compartment. It should not exceed 130° F.

4. The container of the capacitor should be insulated from ground.

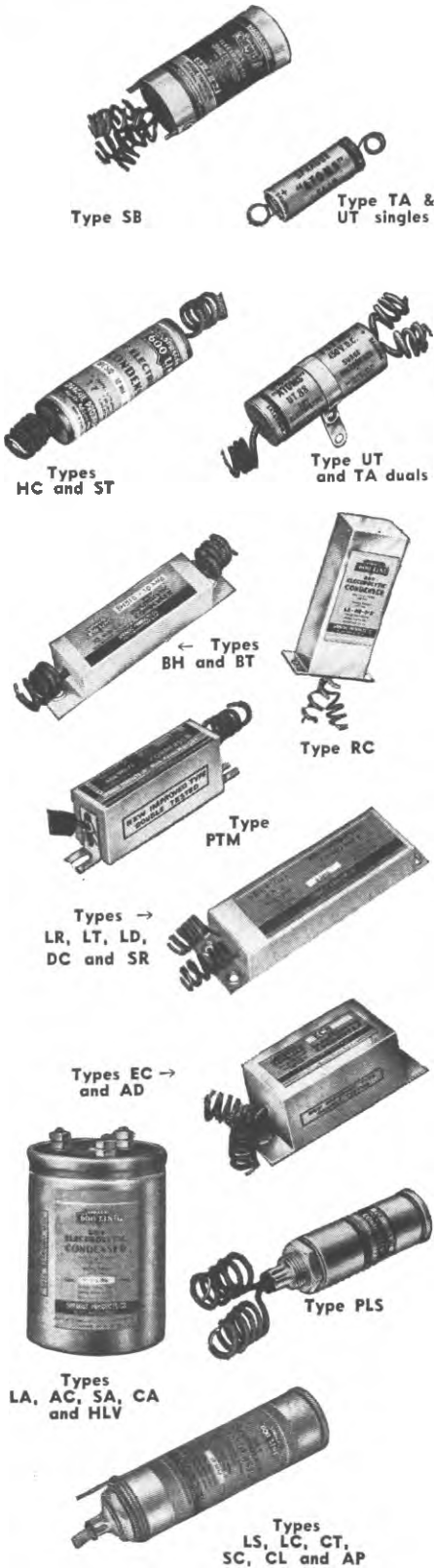
Attention to these factors will generally result in a satisfactory job.



HANDY GUIDE TO DRY ELECTROLYTIC CONDENSERS

Sprague Dry Electrolytics offer a complete line of shapes, sizes, voltages and capacities in both single and multiple combinations for every requirement — each unit backed with the reputation for quality, durability and performance that has made Spragues first choice of discriminating users throughout the world.

This Handy Guide makes it easy for you to order exactly the condenser you need. Once you have determined the proper capacity and voltage, it is only necessary to look in the proper column. There you can see at a glance all of the different sizes, shapes or types of Sprague Condensers and types of Sprague Condensers that these particular specifications.



VOLT-AGE	CAPACITY MFD.	ATOM	SMALL RECTANGULAR TYPES PTM BT-BH	ROUND TYPE HC	UPRIGHT CAN TYPE LA-AC-HLV
12	500				HLV-5012 \$2.40 1 ³ / ₈ x 2 ³ / ₄
12	1000			HC-1012 \$2.50 3 x 1 ³ / ₈	HLV-1012 \$3.55 1 ³ / ₈ x 3 ¹ / ₄
12	1500			HC-2012 \$3.25 4 ¹ / ₂ x 1 ¹ / ₂	HLV-1512 \$4.95 1 ³ / ₈ x 4 ³ / ₄
12	2000				HLV-2012 \$6.30 1 ³ / ₈ x 4 ³ / ₄
25	5		BH-5 .50c 2 ¹ / ₂ x 3 ¹ / ₈ x 1 ¹ / ₈	HC-5 .50c 2 ¹ / ₂ x 1 ¹ / ₈	
25	10	TA-10 .40c 5 ¹ / ₈ x 1 ⁵ / ₈	BH-10 .50c 2 ¹ / ₂ x 3 ¹ / ₄ x 3 ¹ / ₄	HC-10 .50c 2 ¹ / ₂ x 1 ¹ / ₈	
25	25	TA-25 .50c 5 ¹ / ₈ x 1 ⁵ / ₈	BH-25 .65c 2 ¹ / ₂ x 3 ¹ / ₈ x 3 ¹ / ₈	HC-25 .65c 2 ¹ / ₂ x 1 ¹ / ₈	
25	50		BH-50 .95c 2 ¹ / ₂ x 1 x 1	HC-50 .95c 2 ¹ / ₂ x 1 ¹ / ₈	
25	500				HLV-525 \$3.75 1 ³ / ₈ x 2 ³ / ₄
25	1000				HLV-1025 \$6.50 1 ³ / ₈ x 3 ³ / ₄
25	2000				HLV-2025 \$12.45 1 ³ / ₈ x 4 ¹ / ₄
50	5	TA-55 .40c 5 ¹ / ₈ x 1 ⁵ / ₈			
50	10	TA-510 .45c 1 ¹ / ₂ x 1 ⁵ / ₈	BH-510 .65c 2 ¹ / ₂ x 3 ¹ / ₈ x 3 ¹ / ₈	HC-510 .65c 2 ¹ / ₂ x 1 ¹ / ₈	
50	25	TA-525 .55c 5 ¹ / ₈ x 1 ⁵ / ₈	BH-525 .80c 2 ¹ / ₂ x 1 x 1	HC-525 .80c 2 ¹ / ₂ x 1 ¹ / ₈	
50	50		BH-505 \$1.20 2 ¹ / ₂ x 1 ¹ / ₈ x 1 ¹ / ₈	HC-505 \$1.20 3 ¹ / ₄ x 1	
150	4	UT-41 .40c 5 ¹ / ₈ x 1 ⁵ / ₈			
150	8	UT-81 .45c 5 ¹ / ₈ x 1 ⁵ / ₈			
150	12	UT-121 .50c 5 ¹ / ₈ x 1 ⁵ / ₈			
150	16	UT-161 .55c 1 ¹ / ₂ x 1 ⁵ / ₈			
150	20	UT-201 .60c 5 ¹ / ₄ x 1 ⁵ / ₈			
150	40	UT-401 .65c 1 ¹ / ₂ x 1 ⁵ / ₈			
200	2		BT-22 .55c 2 ¹ / ₂ x 1 ¹ / ₈ x 1 ¹ / ₈		
200	4		BT-42 .65c 2 ¹ / ₂ x 3 ¹ / ₄ x 3 ¹ / ₄		
200	8		B-82 .80c 2 ¹ / ₂ x 3 ¹ / ₄ x 3 ¹ / ₄		
200	12		BT-122 .95c 2 ¹ / ₂ x 3 ¹ / ₈ x 3 ¹ / ₈		
200	16		BT-162 \$1.05 2 ¹ / ₂ x 1 x 1		
200	25		BT-252 \$1.25 2 ¹ / ₂ x 1 ¹ / ₈ x 1 ¹ / ₈		
250	4	UT-42 .45c 5 ¹ / ₈ x 1 ⁵ / ₈			
250	8	UT-82 .50c 5 ¹ / ₈ x 1 ⁵ / ₈			



HANDY GUIDE TO DRY ELECTROLYTIC CONDENSERS

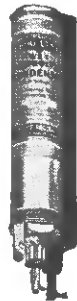
SPRAGUE WET ELECTROLYTICS—Type WC

VOLT-AGE	CAPACITY MFD.	ATOM	SMALL RECTANGULAR TYPES PTM BT-BH
250	12	UT-122 .65c $\frac{3}{4} \times 1\frac{1}{8}$	
250	16	UT-162 .75c $\frac{3}{4} \times 1\frac{3}{8}$	
350	4	UT-43 .50c $\frac{5}{8} \times 1\frac{1}{8}$	
350	8	UT-83 .55c $\frac{3}{4} \times 1\frac{1}{8}$	
350	12	UT-123 .70c $\frac{3}{8} \times 1\frac{1}{8}$	
450	1		PTM-1 .55c $\frac{3}{4} \times \frac{3}{4} \times 2\frac{1}{2}$
450	2		PTM-2 .65c $\frac{3}{4} \times \frac{3}{4} \times 2\frac{1}{2}$
450	4	UT-4 .55c $\frac{3}{8} \times 1\frac{1}{8}$	PTM-4 .75c $\frac{3}{8} \times \frac{3}{8} \times 2\frac{1}{2}$
450	8	UT-8 .60c $\frac{5}{8} \times 1\frac{1}{8}$	PTM-8 .95c $\frac{3}{4} \times 1\frac{1}{8} \times 2\frac{1}{2}$
450	10		PTM-10 \$1.15 $1\frac{1}{8} \times 1\frac{1}{8} \times 2\frac{1}{2}$
450	12	UT-12 .75c $\frac{5}{8} \times 1\frac{1}{8}$	PTM-12 \$1.30 $1\frac{1}{8} \times 1\frac{1}{8} \times 2\frac{1}{2}$
450	16	UT-16 .90c $\frac{7}{8} \times 2\frac{1}{8}$	PTM-16 \$1.45 $1\frac{1}{4} \times 1\frac{1}{4} \times 2\frac{1}{2}$
450	20	UT-20 \$1.00 $\frac{5}{8} \times 2\frac{1}{8}$	
475	2		EC-2 .95c $2\frac{1}{2} \times \frac{5}{8} \times \frac{5}{8}$ DC-2 .95c $2\frac{1}{2} \times \frac{3}{8} \times \frac{3}{8}$
475	4		EC-4 \$1.15 $2\frac{1}{2} \times 1\frac{1}{8} \times 1\frac{1}{8}$ DC-4 \$1.15 $4\frac{1}{8} \times 1\frac{1}{8} \times \frac{3}{8}$
475	6		
475	8		EC-8 \$1.35 $2\frac{1}{2} \times 1\frac{3}{8} \times 1\frac{3}{8}$ DC-8 \$1.35 $4\frac{1}{8} \times 1\frac{3}{8} \times 1\frac{3}{8}$
475	10		
475	12		
475	16		

D.C. Peak Voltage—500 Volts			
Cat. No.	Cap. Mfd	Dimensions	List Price
WC-4	4	1 x 3 $\frac{3}{8}$	\$0.80
WC-6	6	1 x 3 $\frac{3}{8}$	.85
WC-8C	8	1 x 4 $\frac{3}{8}$	.95
WC-8	8	1 $\frac{3}{8}$ x 3 $\frac{3}{8}$	.95
WC-10	10	1 $\frac{3}{8}$ x 3 $\frac{3}{8}$	1.05
WC-12C	12	1 x 4 $\frac{3}{8}$	1.15
WC-12	12	1 $\frac{3}{8}$ x 3 $\frac{3}{8}$	1.15
WC-16C	16	1 x 4 $\frac{3}{8}$	1.35
WC-16	16	1 $\frac{3}{8}$ x 3 $\frac{3}{8}$	1.35
WC-18	18	1 $\frac{3}{8}$ x 4 $\frac{3}{8}$	1.45
WC-30	30	1 $\frac{1}{2}$ x 4 $\frac{3}{8}$	1.70
WC-83	18-300 volts	1 $\frac{3}{8}$ x 3 $\frac{3}{8}$	1.15
WC-40	40-300 volts	1 $\frac{3}{8}$ x 4 $\frac{3}{8}$	1.35

D.C. Peak Voltage—600 Volts			
Cat. No.	Cap. Mfd	Dimensions	List Price
WC-46	4	1 $\frac{3}{8}$ x 3 $\frac{3}{8}$	\$1.30
WC-86	8	1 $\frac{3}{8}$ x 4 $\frac{3}{8}$	1.50
WC-166	16	1 $\frac{1}{2}$ x 4 $\frac{3}{8}$	2.00

Perhaps not everyone realizes that Sprague has perfected more Wet Electrolytic developments, has pioneered and patented more features than any other manufacturer. BUT every serviceman and amateur who has used them, plainly recognizes Sprague superiority in EVERY electrical and mechanical characteristic. Self-healing—long life—can withstand high peak voltages.



LARGE RECTANGULAR TYPES EC-DC SR-LD-LT-LR	ROUND TYPE HC	SMALL CAN TYPE PLS	INVERTED CAN TYPES LS-LC-CT-SC-CL	UPRIGHT CAN TYPE LA-AC-HLV
LD-4 (2 leads) .75c $4\frac{1}{8} \times 1\frac{3}{8} \times \frac{3}{4}$ LT-4 (2 lugs) .75c $4\frac{1}{8} \times 1\frac{3}{8} \times \frac{3}{4}$		PLS-4 (2 leads) .85c 1 x 2 $\frac{3}{4}$	LS-4 .85c 1 x 3 $\frac{1}{2}$	LA-4 .85c 1 x 3 $\frac{1}{2}$
LD-8 (2 leads) .95c $4\frac{1}{8} \times 1\frac{3}{8} \times 1$ LT-8 (2 lugs) .95c $4\frac{1}{8} \times 1\frac{3}{8} \times 1$		PLS-8 (2 leads) \$1.05 1 x 3	LS-8 \$1.05 $1\frac{3}{8} \times 4\frac{1}{8}$ LC-8 (2 leads) \$1.05 $1\frac{3}{8} \times 4\frac{1}{8}$	LA-8 \$1.05 $1\frac{3}{8} \times 4\frac{1}{8}$
			LS-10 \$1.25 $1\frac{3}{8} \times 4\frac{1}{8}$	
LD-12 (2 leads) \$1.30 $4\frac{1}{8} \times 1\frac{3}{8} \times 1\frac{1}{4}$		PLS-12 (2 leads) \$1.40 1 x 3	LS-12 \$1.40 $1\frac{3}{8} \times 4\frac{1}{8}$ LC-12 (2 leads) \$1.40 $1\frac{3}{8} \times 4\frac{1}{8}$	
LD-16 (2 leads) \$1.45 $4\frac{1}{8} \times 1\frac{3}{8} \times 1\frac{1}{4}$ LT-16 (2 lugs) \$1.45 $4\frac{1}{8} \times 1\frac{3}{8} \times 1\frac{1}{4}$		PLS-16 (2 leads) \$1.55 1 x 3	LS-16 \$1.55 $1\frac{3}{8} \times 4\frac{1}{8}$ LC-16 (2 leads) \$1.55 $1\frac{3}{8} \times 4\frac{1}{8}$	LA-16 \$1.55 $1\frac{3}{8} \times 4\frac{1}{8}$
			SC-4 \$1.25 1 x 3 $\frac{1}{2}$ CL-4 (2 leads) \$1.25 1 x 3 $\frac{1}{2}$	AC-4 \$1.25 1 x 3 $\frac{1}{2}$
			SC-6 \$1.45 1 x 4 $\frac{1}{8}$	
			SC-8 \$1.50 $1\frac{3}{8} \times 4\frac{1}{8}$ CL-8 (2 leads) \$1.50 $1\frac{3}{8} \times 4\frac{1}{8}$	AC-8 \$1.50 $1\frac{3}{8} \times 4\frac{1}{8}$
			SC-10 \$1.80 $1\frac{3}{8} \times 4\frac{1}{8}$	AC-10 \$1.80 $1\frac{3}{8} \times 4\frac{1}{8}$
			SC-12 \$2.05 $1\frac{3}{8} \times 4\frac{1}{8}$	AC-12 \$2.05 $1\frac{3}{8} \times 4\frac{1}{8}$
			SC-16 \$2.30 $1\frac{1}{2} \times 4\frac{1}{8}$ CL-16 (2 leads) \$2.30 $1\frac{1}{2} \times 4\frac{1}{8}$	AC-16 \$2.30 $1\frac{1}{2} \times 4\frac{1}{8}$

DUAL, TRIPLE AND MULTIPLE COMBINATIONS

25	10-10		BH-100 .75c $2\frac{1}{2} \times \frac{15}{16} \times \frac{15}{16}$		HC-100 .75c $2\frac{1}{2} \times \frac{15}{16}$		
50	5-5		BH-55 .75c $2\frac{1}{2} \times \frac{15}{16} \times \frac{15}{16}$				
50	10-10	TA-100 .80c $\frac{5}{8} \times 2\frac{3}{8}$					
150	4-4		BH-44 .85c $2\frac{1}{2} \times \frac{15}{16} \times \frac{15}{16}$				

HANDY GUIDE TO DRY ELECTROLYTIC CONDENSERS

DUAL, TRIPLE AND MULTIPLE COMBINATIONS (Continued)

VOLT-AGE	CAP. MFD.	ATOM	SMALL RECTANGULAR TYPES PTM BT-BH	VOLT-AGE	CAPACITY MFD.	LARGE RECTANGULAR TYPES EC-DC SR-LD-LT-LR	CARDBOARD TUBE* AND SMALL CAN TYPE SB AND PLS	INVERTED CAN TYPES LS-LT-CT-SC-CL	UPRIGHT CAN TYPE LA-AC-HLV-CA-SA
150	8-8	TA-88 .80c 1/2 x 2 3/8		450	8-8-18-18				LA-8836 \$4.85 3 x 4 1/2
150	20-20	TA-220 . \$1.05 3/8 x 2 3/8	ATOM TU-220 . \$1.35 Sep. pos. & neg. leads	450	9-9-18-18				LA-9936 \$6.25 3 x 4 1/2
200	4-4		BT-44 (4 leads) . 90c 2 1/2 x 1 3/8 x 1 3/8	475	4-4	DC-44 . \$1.80 4 1/8 x 1 3/8 x 1 3/8 SR-44 (4 leads) \$1.80 4 1/2 x 1 3/8 x 1 3/8		CL-44 (4 leads) \$1.95 1 3/8 x 4 1/8	
200	4-8		BT-48 (4 leads) \$1.15 2 1/2 x 1 3/8 x 3/4	475	4-8	DC-48 \$2.00 4 1/8 x 1 3/8 x 1 3/8			
200	8-8		BT-88 (4 leads) \$1.25 2 1/2 x 1 3/8 x 3/4	475	5-15				AC-515 \$3.35 2 1/2 x 4 1/8
200	8-12		BT-812 (4 leads) \$1.40 2 1/2 x 1 3/8 x 1 1/8			SR-88 (4 leads) \$2.20 4 1/8 x 1 3/8 x 1 1/2		CL-88 (4 leads) \$2.40 1 1/2 x 5	AC-88 . \$2.40 1 1/2 x 4 1/2 CA-88 (2 leads) 1 3/4 x 4 3/8 \$2.40 SA-88 . \$2.40 2 1/2 x 4 3/8
200	8-16	TA-816 . 95c 3/8 x 2 3/8	BT-816 (4 leads) \$1.45 2 1/2 x 1 3/8 x 1 1/8	475	8-8	DC-88 \$2.20 4 1/8 x 1 3/8 x 1 1/2		SC-88 (can. neg.) \$2.40 1 1/2 x 4 1/8	AC-888 \$4.00 3 x 4 1/2
200	12-12	TA-212 . 95c 3/8 x 2 3/8		475	8-8-8		SB-1216* \$1.55 1 1/2 x 3 1/8 12-16 200 volts		AC-9918 \$5.80 3 x 4 1/2
200	12-16			475	9-9-18				AC-9936 \$8.15 3 x 4 1/2
200	16-16	TA-216 . \$1.05 3/8 x 2 3/8		475	9-9-18-18				AC-9918 \$5.80 3 x 4 1/2
200	8-8-8		BT-888 (6 leads) \$1.90 2 1/2 x 1 3/8 x 1 3/8	475	9-9-18-18				AC-9936 \$8.15 3 x 4 1/2
250	8-16	AT-816 \$1.05 3/4 x 2 3/8				LARGE RECTANGULAR TYPES EC-DC SR-LD-LT-LR	CARDBOARD TUBE* AND SMALL CAN TYPE SB AND PLS	INVERTED CAN TYPES LS-LT-CT-SC-CL	UPRIGHT CAN TYPE LA-AC-HLV-CA-SA
250	16-16	TU-216 \$1.65 Sep. pos. & Sep. neg. leads				LD-44 (com. neg.) \$1.20 4 1/8 x 1 3/8 x 1 LR-44 (4 leads) \$1.20 4 1/8 x 1 3/8 x 1		LC-44 (4 leads) \$1.30 1 3/8 x 4 1/8 CT-44 (3 leads) \$1.30 1 3/8 x 4 3/8	
450	4-4		PTM-44 (4 leads) \$1.20 1 1/8 x 1 3/8 x 2 1/2			LR-48 (4 leads) \$1.35 4 1/8 x 1 3/8 x 1 3/8	PLS-48 (4 leads) \$1.45 1 3/8 x 3		LA-515 \$2.30 2 1/2 x 4 1/2
450	4-8		PTM-48 (4 leads) \$1.35 1 1/8 x 1 3/8 x 2 1/2						
450	5-15								
450	8-8	UT-88 \$1.05 1 x 2 3/8	PTM-88 (4 leads) \$1.50 1 1/8 x 1 3/8 x 2 1/2			LD-88 (com. neg.) \$1.50 4 3/8 x 1 3/8 x 1 3/8 LR-88 (4 leads) \$1.50 4 3/8 x 1 3/8 x 1 3/8	PLS-88 (4 leads) \$1.60 1 1/2 x 3	LS-88 (2 lugs) \$1.60 1 3/8 x 4 1/8 LC-88 (4 leads) \$1.60 1 3/8 x 4 1/8 CT-88 (3 leads) \$1.60 1 1/2 x 4 1/8	LA-88 . \$1.80 2 1/2 x 4 1/8
450	8-8	TU-88 \$1.35 Sep. pos. & sep. neg. leads					SB-88* \$1.50 1 1/2 x 3 1/8		
450	8-16	UT-816 \$1.35 1 x 2 3/8					PLS-816 (4 leads) \$2.05 1 1/2 x 4 3/8 SB-816* \$1.90 1 1/2 x 3 1/8		LA-816 . \$2.35 2 1/2 x 4 7/8
450	4-4-4					LD-444 (com. neg.) \$1.80 4 1/8 x 1 3/8 x 1 1/4 LR-444 (6 leads) \$1.80 4 1/8 x 1 3/8 x 1 1/4			LA-444 . \$2.15 2 1/2 x 4 3/8
450	8-8-8					LD-888 (com. neg.) \$2.20 4 1/8 x 2 x 1 1/2 LR-888 (6 leads) \$2.20 4 1/8 x 2 x 1 1/2	PLS-888 (6 leads) \$2.30 1 1/2 x 4 3/8		LA-888 . \$2.70 3 x 4 1/2
450	9-9-18								LA-9918 \$3.75 3 x 4 1/2
450	8-8-8-8								LA-8888 \$3.60 3 x 4 1/2

VOLT-AGE	CAP. MFD.	RECTANGULAR CARDBOARD	VOLT-AGE	CAP. MFD.	RECTANGULAR CAN	VOLT-AGE	CAP. MFD.	RECTANGULAR CAN	VOLT-AGE	CAP. MFD.	INVERTED CAN
600	4	AD-46 \$1.75 2 1/2 x 1 3/8 x 1 3/8	800	2	RC-28 \$1.85 4 1/2 x 1 3/4 x 1 3/8	800	8	RC-88 \$2.75 4 1/2 x 1 3/4 x 1 3/8	600	4	AP-46 \$1.85 1 3/8 x 4 3/8
600	8	AD-88 \$2.45 4 1/8 x 1 1/2 x 1 3/8	800	4	RC-48 \$2.00 4 1/2 x 1 3/4 x 1 3/8				600	8	AP-88 \$2.60 1 1/2 x 4 3/8



RADIO INTERFERENCE ELIMINATION MATERIALS



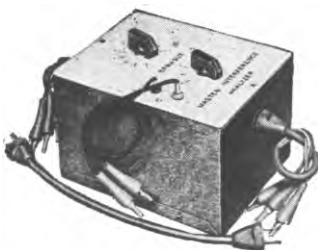
Manual of Interference Elimination

Tells you exactly what to do—and how to do it.

Paves the way for profitable new business for servicemen

Here at last, is a complete, practical manual covering every phase of the work of eliminating man-made radio noises at the source. Contains 24 pages, each one "chock" full of practical information for the elimination of radio interference from all types of electrical devices, compiled from the thousands of actual field problems solved by Sprague engineers during the past two years. It shows the correct filter circuits and parts needed and the procedure for connecting filters to electrical devices such as: single phase motors, polyphase motors, DC generators, alternators, switches, thermostats, sign flashers, arcing devices, oil burners, gas engines, vibrating contacts, razors, buzzers, mercury vapor lamps, fluorescent lamps, etc. Also contains many business-building hints. A book every serviceman should have for quick, easy reference on all types of interference work **ONLY 25c NET**

New Sprague Master Interference Analyzer



No more guess work! A compact, professional instrument used by specialists for testing all types of equipment suspected of causing radio interference. By rotating the two Analyzer switches, different filter circuits are automatically connected until the correct combination is found which eliminates the noise. The Master Interference Analyzer tells you exactly what Sprague filter, filters and chokes, or filters and resistors are necessary for best results. Forty-four standard filter combinations are available and, in all, sixty filter combinations are possible from these various dial settings. A chart is supplied with every Analyzer, showing the recommended filter circuits which can be obtained from the Master Analyzer. Will operate at 110 or 220 volts AC or DC. The chokes in this Master Analyzer will take care of currents up to 20 amperes. With the sale of every Interference Locator or Interference Analyzer, or both, you will receive free, a 24 page Interference Manual described in this catalog **NET PRICE \$23.94**

New Sprague Interference Locator Model IL-2



Complete portable unit, self contained in a rugged metal case, with detachable cover, and carrying handle. . . . Tuning ranges are 500 to 1700 KC, 1.7 to 5 MC, and 15 to 32 MC. Sensitivity is less than 1 microvolt for 10% output meter scale deflection. Excellent sensitivity with pole antenna produced by special antenna circuit. . . . Self contained batteries for portable operation. AC-DC cord connectors for line operation. . . . Loudspeaker output, and headphone jacks. . . . Sensitive, two range output meter. . . . Calibrated volume control. . . . Rotatable loop antenna is demountable and is carried within cover recess. Extendable pole antenna is standard equipment. Coaxial cable for use of pole antenna as probe, supplied with connectors, at extra cost. Loop antenna connects to special audio input jacks for use as audio pickup coil. Excellent as a pipe finder. Size: 15" x 11" x 8". Weight: 23 lbs. **MODEL IL-2 NET PRICE \$79.90**

Sprague Plug-in Radio Noise Filters



Designed to reduce radio interference caused by electric razors, and common vibration devices. Enclosed in Bakelite case. Two inches long by 1-7/16 inches diameter. Can be plugged into any socket conveniently. Longer male-prong type assures excellent contact at all times.

Designed either for installation directly at the power-line outlet of radio receiver or at power outlet to which the noise-making electrical appliances is to be attached.

TYPE LF-1. Attractively packaged in individual boxes **LIST PRICE .\$.100**

SPRAGUE INTERFERENCE FILTERS and CHOKES



Each of these units has been specifically designed and constructed for effective radio noise elimination at the source. Used either separately or in conjunction with the Sprague Master Interference Analyzer, they will be found unexcelled for the purpose. All condensers can be used at 110 volts AC or DC and 220 volts AC or DC

- TYPE IF-15**—A triple section filter for application to all small motors or motor operated devices. Specially designed to prevent accidental shocks from discharge of filter condensers. In accordance with RMA recommendations. **2 1/4" x 1" LIST \$1.25**
- TYPE IF-25**—A double section filter for medium sized motors, and 1 Horsepower motors. Condenser and terminals completely enveloped in metal shield for safety. **3 1/2" x 1 1/2" LIST \$2.25**
- TYPE IF-G1**—A compact, metal encased, single section filter for application to each brush of multiple brush generators, rotary converters, etc. Can and mounting bracket form one terminal of the filter. **1 1/2" x 1 1/8" LIST \$2.65**
- TYPE IF-G10**—A high capacity, single section filter, with completely enclosed terminal construction for safety. Used in combination with IF-11 condenser on 3 wire systems, etc. **3 1/4" x 1-5/16" LIST \$2.00**
- TYPE IF-11**—A dual high capacity filter, with completely enclosed safety construction. For application to large motors, over 1 Horsepower. Also used on high current arcing or sparking devices. Used with IF-G10 on 3 wire power systems. **4 1/4" x 4 1/2" LIST \$2.85**
- TYPE IF-21 and IF-33**—A dual, compact, metal encased tubular filter for use across the brushes of fractional horsepower motors with can grounded to the motor frame. Also used across the line terminals of motors in conjunction with chokes to form a "brute force" filter for stubborn cases of interference. **2-3/16" x 1" —IF-21 LIST \$1.00**
IF-33 LIST \$1.75
- TYPE IF-S1**—A single, 2 lead, filter section with can completely insulated. For use across make and break contacts. **2" x 3/4" LIST \$1.75**
- TYPE IF-R1** — A special resistor-capacitor filter combination for use across arcing, or make and break contacts in inductive circuits where prolonged sparking takes place. **2 1/2" x 1" LIST \$1.40**
- TYPE IF-R2**—Same construction and applications as IF-R1, except used in very highly inductive circuits, where suppression provided by IF-R1 is not sufficient. **2 1/2" x 1" LIST \$1.40**
- TYPE CH-1. CH-2**—High quality, completely metal encased chokes of adequate inductance to provide real filtering action at radio frequencies. CH-1 carries up to 10 amps and CH-2 up to 20 amps. CH-1 Mounting centers 2 1/4". CH-2 Mounting centers 3-5/16". Both types provided with 8" Pigtail Leads. **CH-1—3 1/4" x 1 1/2" x 1 1/2" LIST \$1.35**
CH-2—3" x 2 1/2" x 2 3/4" LIST \$2.75
- METAL CUT-OUT BOXES**—Sprague furnishes a standard metal cut-out box 6" x 8" x 3 1/4" to house various individual Sprague interference units used in a filter system—Jobbers carry them in stock **LIST \$1.50**

FREE — SPRAGUE BUSINESS-BUILDERS! To help you build profitable interference business, Sprague has prepared a complete list of post cards available for mailing to your prospects locally—Also, a series of newspaper advertising mats for use in your local newspapers and containing space for your imprint. These are available at nominal cost. For details write: Sprague Products Company, North Adams, Mass.

SPRAGUE Condensers

Famous TC Tubulars

"NOT A FAILURE
IN A MILLION!"

Probably the most famous, the most popular and the most reliable condensers ever presented to the radio profession. Impregnated—full moisture-proof—double secured pigtail leads that won't pull out.



Test Volt.—1200 Volts Work. Volt.—600 Volts

Cat. No.	Cap. Mfd.	Dim., L. x D.	List Price
TC-31	.0001	7/8" x 1/2"	\$0.15
TC-325	.00025	7/8" x 1/2"	.15
TC-34	.0004	7/8" x 1/2"	.15
TC-35	.0005	7/8" x 1/2"	.15
TC-21	.001	1 1/8" x 1/2"	.15
TC-22	.002	1 1/8" x 1/2"	.15
TC-23	.003	1 1/8" x 1/2"	.15
TC-24	.004	1 1/8" x 1/2"	.15
TC-25	.005	1 1/8" x 1/2"	.15
TC-26	.006	1 1/8" x 1/2"	.15
TC-11	.01	1 3/8" x 1/2"	.15
TC-12	.02	1 3/8" x 1/2"	.15
TC-13	.03	1 3/8" x 1/2"	.20
TC-14	.04	1 3/8" x 1/2"	.20
TC-15	.05	1 3/8" x 1/2"	.20
TC-16	.06	1 3/8" x 1/2"	.25
TC-1	.1	1 3/8" x 1/2"	.25
TC-2	.25	2 1/8" x 1/2"	.35
TC-5	.5	2 1/8" x 1/2"	.50
TC-10	1.0	2 1/8" x 1/2"	.80

SPRAGUE Handy Tubular Kits



These handy kits of Standard TC Condensers provide a most convenient means of keeping your tubular stock—and you're sure of always having the capacities you need **when you need them.** Each kit contains 33 TC Tubulars as follows:

Quan.	Mfd.	Type	Quan.	Mfd.	Type
2	.001	TC-21	4	.05	TC-15
3	.002	TC-22	8	.1	TC-1
3	.005	TC-25	2	.25	TC-2
5	.01	TC-11	1	.5	TC-5
5	.02	TC-12			

No. TK-330—Complete Kit of 33 Tubulars
List Price \$6.70

Additional Sprague Handy Tubular Kits may be obtained in the following selections:

Cat. No.	Quantity	Mfd.	Type	List Price
TK-55	5	.5	TC-5	\$2.50
TK-62	6	.25	TC-2	2.10
TK-81	8	.1	TC-1	2.00
TK-1515	15	.05	TC-15	3.00
TK-1511	15	.01	TC-11	2.25
TK-1512	15	.02	TC-12	2.25



Contains 6 Type UT-8 Atom Condensers, 8 mfd.
No. AK-1.....List Price \$3.60

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PAPER DIELECTRIC UNITS

Paper dielectric condensers for replacement of D.C. Dry Electrolytic condensers. The steady demand for Paper condensers of the same sizes and shapes as Dry Electrolytics to serve as replacements for Dry Electrolytics has prompted us to give you this line of condensers. The actual capacity is one-third to one-half the capacity of a Dry Electrolytic in the same size container. The leakage and power factor are extremely low. No polarity has to be observed. Types DR and RP are ideal for replacements in high voltage public address systems, power amplifiers and high voltage filter circuits.



Type RP



Type D R

Cat. No.	Replacement Cap. Mfd.	Voltage	Length	Size	Diameter	List Price
DR-4	4	600	4 1/2"	X	1 1/2"	\$1.35
DR-8	8	600	4 3/4"	X	1 3/8"	1.75
DR-44	4-4	600	4 3/4"	X	1 1/4"	2.25
DR-88	8-8	600	4 3/4"	X	1 1/2"	2.80

Cat. No.	Replacement Cap. Mfd.	Voltage	Dimensions	List Price
RP-8	8	600	4 1/4" x 1 1/2" x 3/8"	\$1.60
RP-88	8-8	600	4 3/4" x 1 1/2" x 3/8"	2.65

VIBRATOR CONDENSERS (Oil Impregnated)

Sturdy, new units specifically designed to withstand voltages in vibrators. Fully sealed in durable metal cans. Eliminate your troubles due to broken down vibrator condensers by replacing with this new oil impregnated condenser. Working Voltage 1500 V.D.C.

Cat. No.	Cap. Mfd.	Dimensions Inches	List Price
AR-11	.01	1 1/8" x 3/8" x 1/2"	\$0.45
AR-12	.02	1 1/8" x 3/8" x 1/2"	.45
AR-13	.03	1 1/8" x 3/8" x 1/2"	.45
AR-14	.04	1 1/8" x 3/8" x 1/2"	.45
AR-15	.05	1 1/8" x 3/8" x 1/2"	.45
MV-11	.01	3" x 1 1/8" x 1/2"	.45
FR-11	.01	1" x 1 1/8" x 1/2"	.45
FR-12	.02	1" x 1 1/8" x 1/2"	.45
LR-27	.007	1 1/8" x 3/8" x 1/2"	.45
LR-11	.01	1 1/8" x 3/8" x 1/2"	.45
LR-12	.02	1 1/8" x 3/8" x 1/2"	.45



AR



MV



FR

Type TR—HIGH-VOLT. TUBULARS Oil Impregnated—Wax Filled

Designed for Buffers or other high-voltage uses. Working Voltage 1500 Volts D.C.

Cat. No.	Capacity Mfd.	Mounting Dimensions	List Price	Cat. No.	Capacity Mfd.	Mounting Dimensions	List Price
TR-35	.0005	3/8" x 1 1/4"	\$0.35	TR-27	.007	3/8" x 1 1/4"	\$0.35
TR-21	.001	3/8" x 1 1/4"	.35	TR-28	.008	3/8" x 1 1/4"	.35
TR-22	.002	3/8" x 1 1/4"	.35	TR-11	.01	3/8" x 1 1/4"	.35
TR-23	.003	3/8" x 1 1/4"	.35	TR-12	.02	3/8" x 1 1/4"	.35
TR-24	.004	3/8" x 1 1/4"	.35	TR-13	.03	3/8" x 1 1/4"	.35
TR-25	.005	3/8" x 1 1/4"	.35	TR-14	.04	3/8" x 1 1/4"	.40
TR-26	.006	3/8" x 1 1/4"	.35	TR-15	.05	3/8" x 1 1/4"	.45

AUTO RADIO CONDENSERS



DL-1 GG-5 OG-50 List
Type DL-1—Dome Light Filter.....\$0.80
Type GG-5—Gas Gauge Filter......50
Type OG-50—Oil Gauge Filter......50

No. P3402—Ammeter Condenser: .5 mfd., size 3/8" x 2". List Price.....\$0.45



P-2153

No. P-2153—Motorola Replacement Condenser: 2" x .0005 mfd. List Price.....\$0.45

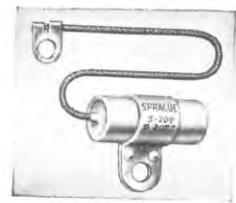


Type AR

Ford Type

Specially designed to withstand intense vibration and heat. Full Capacity—zero voltage ratings.
Test Volt.—600 Volts Work. Volt.—400 Volts

Cat. No.	Capacity Mfd.	Dimensions Inches	List Price
AR-1	1.0	2 1/4" L x 1" dia.	\$0.70
AR-2	.5	2" L x 3/8" dia.	.50
Ford Type	.5	2" L x 3/8" dia.	.50
AR-25	.5-.5	2 3/8" L x 1" dia.	.75



P-2077

No. P-2077—Ford Replacement Condenser, List Price.....\$0.50

SPRAGUE Condensers



METAL-CASED BY-PASS

Enclosed in a drawn metal case, they have the added individual feature of the special Sprague waxing process which protects them against heat and moisture.

Test Voltage 1200
Work. Voltage 400 Peak Voltage 600

Cat. No.	Capacity Mfd.	Dimensions Inches	Mfg. Dim.	List Price
BP-1	.1	1 3/4 x 1 1/2 x 1 1/2	2 3/8	\$0.65
BP-25	.25	1 3/4 x 1 1/2 x 1 1/2	2 3/8	.75
BP-50	.5	1 3/4 x 1 1/2 x 1 1/2	2 3/8	.95
BP-10	1.0	1 3/4 x 1 1/2 x 1 1/2	2 3/8	1.25
BP-21	1-1	1 3/4 x 1 1/2 x 1 1/2	2 3/8	.80
BP-225	.25-25	1 3/4 x 1 1/2 x 1 1/2	2 3/8	1.00
BP-250	.5-5	1 3/4 x 1 1/2 x 1 1/2	2 3/8	1.25
BP-31	1-1-1	1 3/4 x 1 1/2 x 1 1/2	2 3/8	1.05
BP-41	1-1-1-1-1	1 3/4 x 1 1/2 x 1 1/2	2 3/8	1.40



SHORT-WAVE, HIGH FREQUENCY CONDENSER

Oil Impregnated

A substitute for mica condensers. Sturdy, self-supporting. Unusually small. Metal-encased. Non-inductive. Low-power factor. Impregnated with special oil. Guaranteed.

Cat. No.	Capacity	Working Voltage	Dimensions, Inches D.	List Price
SW-22	.002	1500	3/8 x 1 1/8	\$0.45
SW-25	.005	1500	3/8 x 1 1/8	.45
SW-11	.01	1500	3/8 x 1 1/8	.70
SW-12	.02	1500	3/8 x 1 1/8	.75
SW-15	.05	1000	3/8 x 2 1/8	.80
SW-1	0.1	1000	3/8 x 2 1/8	.90

"Cased" Uncased Paper Sections

Oil Impregnated—Wax Filled

Fully cased—fully sealed to prevent melting of wax. Impervious to moisture. Backed with the full Sprague Guarantee when used at their rated voltages. Handy mounting flanges may be cut off if not needed. They look better—they ARE better. Try them!



Cat. No.	Cap. Mfd.	D.C. Voltage	Dimensions Inches	List Price
UC-54	0.5	400	2 1/4 x 1 1/2 x 1 1/2	\$0.50
UC-14	1	400	2 1/4 x 1 1/2 x 1 1/2	.75
UC-24	2	400	2 1/4 x 1 1/2 x 1 1/2	1.15
UCL-24	2	400	3 1/4 x 1 1/2 x 1 1/2	1.15
UC-16	1	600	2 1/4 x 1 1/2 x 1 1/2	.90
UC-26	2	600	3 1/4 x 1 1/2 x 1 1/2	1.35
UC-46	4	600	4 1/4 x 1 1/2 x 1 1/2	2.50
UC-18	1	800	3 1/4 x 1 1/2 x 1 1/2	1.25
UC-28	2	800	4 1/4 x 2 1/4 x 1 1/2	2.00
UC-11	1	1000	4 1/4 x 1 1/2 x 1 1/2	1.50
UC-21	2	1000	4 1/4 x 2 1/4 x 1 1/2	2.50
UC-41	4	1000	4 1/4 x 2 1/4 x 3 1/2	4.50

SPECIAL SPRAGUE CONDENSERS FOR TELEVISION

As suppliers to leading equipment manufacturers, Sprague has been a leader in the development of special condensers designed for modern television requirements. Type TE Oil-impregnated, oil-filled can type units with insulated terminals, and Type HT Oil-impregnated, wax-filled tubulars in high voltages are described in the Sprague general catalog, copy of which will gladly be sent upon request to Sprague Products Company, North Adams, Mass.

THE NEW SPRAGUE CATALOG

GET YOUR COPY!
TODAY—FREE

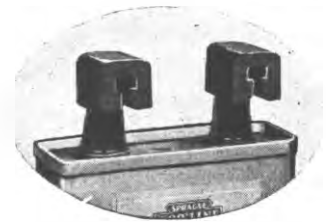


Don't fail to get a copy of the big new 20-page Sprague General Catalog—free upon request. Listed here in detail are all types of condensers for every service, amateur and experimental requirement including many new types recently added to the line. No one interested in radio should be without a copy.

SPRACOL TRANSMITTING CONDENSERS

with the exclusive

SPRAGUE LIFEGUARD FEATURE

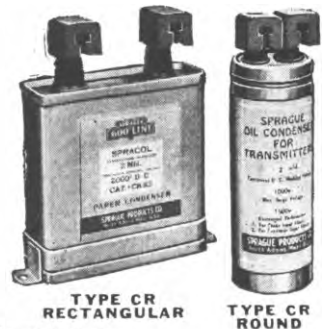


Play safe on high voltages the practical way. Insist on Spragues... the only Transmitting Condensers equipped with the new "Lifeguard" Terminal Insulation Caps. No danger of electrocution from high voltages—no shock from stored-up charges which may remain in condensers for several days.

FREE Sprague Lifeguard Protective Caps are supplied at **no extra cost** with every Sprague Transmitting Condenser. These handy caps are also sold separately at 25c list per pair. Just the thing to protect your old condensers or any other exposed high voltage terminals in your rig.

And remember! All Sprague terminals are insulated from cans for at least twice the working voltage; units are in complete cans which can be grounded automatically through mounting clamps—and all condensers are oil impregnated and oil-filled with SPRACOL, the famous Sprague 500 degree F. flash protection oil. Oil-filled Condensers are essential for high voltage use!

- Oil-impregnated
- Oil-filled
- Fully Sealed
- Unconditionally guaranteed when used as specified
- Rectangulars have "All-Mount" Feature



TYPE OT ROUND

(with "Lifeguard" Caps)

Catalog No.	Capacity Mfd.	D.C. Working Voltage	Surge Voltage	List Price
OT-26	2	600	1000	\$3.25
OT-11	1	1000	1500	2.75
OT-21	2	1000	1500	3.75
OT-41	4	1000	1500	4.75
OT-515	0.5	1500	2000	2.75
OT-115	1	1500	2000	3.50
OT-215	2	1500	2000	4.75
OT-12	1	2000	3000	4.50
OT-22	2	2000	3000	5.00
OT-13	1	3000	3500	9.00

TYPE CR—NEW SMALL RECTANGULAR

(with "Lifeguard" Caps and New Universal Mounting Feature)

Cat. No.	Capacity Mfd.	D.C. Working Voltage	Can Size	List Price
CR-16	1	600	1 1/2 x 1 1/2 x 2 1/4	\$3.50
CR-26	2	600	1 1/2 x 1 1/2 x 2 1/4	4.25
CR-46	4	600	1 1/2 x 2 1/2 x 3 1/4	5.50
CR-11	1	1000	1 1/2 x 1 1/2 x 2 1/4	3.75
CR-21	2	1000	1 1/2 x 1 1/2 x 2 1/4	5.00
CR-41	4	1000	1 1/2 x 2 1/2 x 3 1/4	6.25
CR-115	1	1500	1 1/2 x 1 1/2 x 3 1/4	4.50
CR-215	2	1500	1 1/2 x 2 1/2 x 4 1/4	6.25
CR-415	4	1500	1 1/2 x 3 1/2 x 4 1/4	8.50
CR-12	1	2000	1 1/2 x 2 1/2 x 3 1/4	5.50
CR-22	2	2000	1 1/2 x 3 1/2 x 3 1/4	6.50
CR-42	4	2000	2 1/4 x 3 1/2 x 3 1/4	9.00
CR-125	1	2500	1 1/2 x 3 1/2 x 3 1/4	8.00
CR-225	2	2500	1 1/2 x 3 1/2 x 4 1/4	13.00
CR-13	1	3000	2 1/4 x 3 1/2 x 4 1/4	12.00
CR-23	2	3000	3 1/2 x 3 1/2 x 4 1/4	15.00

INVERTED SCREW CAN ROUND TYPES for P.A. and TRANSMITTER WORK, TELEVISION and HIGH-GAIN AMPLIFIERS

CAN GROUNDED

Cat. No.	Capacity Mfd.	D.C. Working Voltage	Can Size	List Price
PC-26	2	600	1 1/2 x 2 1/4	\$2.75
PC-46	4	600	1 1/2 x 4 1/2	3.75
PC-11	1	1000	1 1/2 x 2 1/4	2.50
PC-21	2	1000	1 1/2 x 4 1/2	3.25

SPRAGUE Condensers

EXACT DUPLICATE REPLACEMENT CONDENSERS

In addition to the Universal Replacements, a demand for Exact Duplicate Replacements has been made for the following listing of replacements for POPULAR receivers. These condensers are identical with the manufacturers' specifications.

We are in a position to supply you with any exact duplicate replacements due to the thousands of types of condensers that we have manufactured for the radio set trade. SPRAGUE is the largest supplier of condensers to the

radio set trade and has been for a great number of years. Our file of Exact Duplicate Replacements is so large that it makes it absolutely impossible to list it in any satisfactory printed form.

When ordering Exact Duplicate Replacements not listed below, please give us the set manufacturer's name, part number on the condenser, capacity, voltage, physical dimensions and whether can or cardboard.

Model No.	Part No.	Cap. Mfd.	Voltage	Type	Sprague Part No.	List Price	Model No.	Part No.	Cap. Mfd.	Voltage	Type	Sprague Part No.	List Price	
ATWATER KENT														
	19060	10	475	Wet	WC-10	\$1.05		ZCC-195	.37	.....	Bl. can	P-2423	\$.85
	23394	8	475	Wet	W-1307	.95	U6A	ZCC-191B	.75	.....	Bl. can	P-2423	1.35
Used in number of Standard Receivers	23481	12	475	Wet	W-506H	1.15	101U-107-111-114.....	ZCC-102A	16-8-4	150	Can	D-3444	2.15	
246-555	24099	4-8	450	Can	D-681	1.45	U6B-106	2CC194	16-8	150	Box	D-3236	1.45	
155 (1 & 2)	24092	8-8-8	150	Box	D-1025	1.75	106	2CC-222	12	150	Can	D-1161	1.70	
	24099	8	150	Box	D-866	.80	108-110-USA							
155 (3)	24955	8-8-8	150	Box	D-1028	1.75	USA	2DC-203	16-8	150	Box	.....	1.35
165-185	25168	8	475	Wet	W-1303	.95	U6F	2DC-300	16-8	150	Tube	.....	1.35
275-825	26158	8-1-8	100	Can	D-1052	1.95	U4C	2LC-224	16-8-4	150	Can	D-1162	2.15	
112-184-856-976	27583	16	300	Wet	W-123B1	1.00		2WC-230	8	150	Box	.....	1.45
145-235	27585	8	350	Wet	W-118L	.80	AC-130, R152, R156							
	28767	8	350	Wet	W-112L	.80		3RC-318A	5-5	25	Tube	.....	1.25
	29091	16	450	Wet	W-506H	1.35	GENERAL ELECTRIC CO.							
328	22472	7	200	Tube	D-837	.75	F63-F65-F66	K12J6	12-8	400	Tube	D-3245	1.75	
91-91B-91C-165 Q-385 Q-387-469 Q							F70-F76							
BELMONT RADIO								K12J11	8	400	Tube	.....	2.85
505	119-24	5-5	200	Tube	D-6612	.90	E61-E62-E67							
602B-602C	119-24	20-5	100	Tube	D-6611	1.30	565	T18-J435	12-8	350	Tube	.....	1.60
625-545-530-650-540-525	C-325B	5-25-5	100	Box	BT-1	1.95	566	T18-J435-15	25	150	Box	D-1859	1.00	
COLONIAL RADIO & SEARS ROEBUCK								T18-J435-16	10	25	.....	.....	1.45
	R-8053	8-8-8	200	Box	D-1031	1.90	GRUNOW							
Sears Roebuck 1703-7064	R-8313	8	200	Box	D-1033	1.30	25321A	8	300	Box	D-691	2.00		
Sears 1711-1744-1745-1852-1853-7090	R-8357	4	150	Box	D-1035	1.30	26508	8	450	.....	.....	.....	.....
	R-8488	8	350	Wet	W-1502	.80	26993	4-4	25	.....	.....	.....	.....
Sears Roebuck 1862	R-10673	6-6	150	Box	D-1118	1.60	(6A) 651-652	10-10	300	Box	D-1615	1.50		
	R-15216	25	25	.....	.....	.....	(6C) 660-661-662	8	450	Box	D-1273	.95	
	R-17291	8-8	300	Tube	D-279	2.00	(7B) 750-751-752	29558	16	450	Box	D-1294	1.45	
		35	350	.....	.....	.....	501-550	27151	20-8-4	150	Box	D-1149	2.20
		5-5	12	.....	.....	.....	670-671						
CROSLLEY RADIO								30091	8	475	.....	.....	.....
125-130-132	W-26119	4	300	Box	D-834	1.05		8-8	300	Box	D-1091	3.25		
146	W-26896	8	150	Box	D-663	1.30		12-12	25	.....	.....	.....
148-167	W-27488	6	400	Box	CM-68	.95	(4B) 460-461	31208	8-8	450	Box	D-481	1.50	
147-168-173	W-27677A	8	25	.....	.....	.....	(4C) 470	36752	25	450	Wet	W-2116	1.65
164-170-171-7M2-175-5V1	W-28978	6	25	.....	.....	.....	INTERNATIONAL RADIO						
	W-29097B	8-8	25	Box	CR-144	.75	Kadette & P	A 408	5-5	35	Box	IR-55	.75	
	W-30059A	12	150	Can	D-476	.95	A & B	A 424	4-10-10	150	Box	D-3227	1.70	
	W-32374	8	250	.....	.....	.....	MAJESTIC						
	W-29150A	6	400	.....	.....	.....	55-59	YCE19	10	25	.....	.....	1.85
7V2-169-5M3	W-29150B	7	450	Can	D-572	1.90	MOTOROLA							
	W-29150C	8	25	.....	.....	.....	100	1388	8-8	350	Box	6080A	2.00
173-173-5	W-30124	16	100	Can	CR-173	2.15	75	1688	25	200	Box	D-3091	1.40	
103	W-30419	8-16	125	Can	CR-103	1.10	RCA-G.E.							
		8	250	.....	.....	.....	(old) 66137	4-4	140	.....	.....	.....	.....
	W-38908	4	150	Can	D-798	2.75	(old) 66138	5-5	35	.....	.....	.....	.....
		4	50	.....	.....	.....	(G.E.) K78-K79	4-4	150	Tube	.....	.....	.....
DELCO-UNITED MOTORS SERVICE								(RCA) R27-17M-18W	1	300	Tube	RM-14	.75	
	601814 or 32704	10-10	350	Box	D-1130	2.25	(RCA) M116-M-34-M105	(new) 6492	3.6	100	.....	.....	.....
	1208786	8-10-16-25	200	Se. can	UM-11	3.00	(G.E.) B-52-B40-C41	(old) 66140-7	4	200	Tube	D-1032	1.25	
1101							(old) 66140-1	4	150	.....	.....	.....	.....
ELEC. RESEARCH LABS-ERLA Private Brand Models								(RCA) 330-331	(old) 66143-2	10	300	Box	D-701	1.45
	9328	5-5	25	Box	D-909	.75	(G.E.) K78-K79	(new) 6555	4	150	.....	.....	.....
	9355	8-8-4	150	Box	D-409	1.70	(RCA) R28-110-111-R28P-119	(old) 66143-3	4	450	Box	D-480	1.05	
	9738	8-8	450	Box	D-1053	2.25	(G.E.) K50-K52-K50P-K53	(new) 7589	4	150	.....	.....	.....
	9982	10-10	25	.....	.....	.....	(RCA) R-37-R38	4-4	300	.....	.....	.....	.....
EMERSON								(G.E.) R37P-R38P	(old) 66155	10	150	Box	D-1150	2.00
38	GCC-125	16-8-4	150	Can	.....	2.15	(G.E.) K60-K65	(new) 6487	4	25	.....	.....	.....
U55	GGC-137A	16-8	150	Box	.....	2.15	(RCA) R225	(old) 66160	8	250	Box	D-420	1.30
							(G.E.) L50	(new) 6518	8	175	.....	.....	.....
20A-25-25A	HC-31	4-4	200	Box	BT-44	.90		(old) 66171-1	10	25	Box	D-1059	3.60	
20A-25-25A	HC-32	5-5	25	Box	IR-55	.75			8-4	150	.....	.....	.....
30-33-250-300-321-330-350	KC-68	16-8-4	175	Box	D-3225	1.95			8	250	.....	.....	.....
19	KKC-143	12-8	150	Box	.....	1.25			8	150	.....	.....	.....
	TTC-159	8-6	400	Can	.....	2.10			10	25	.....	.....	.....
31B	UUC-179	12-8	150	Box	.....	2.05			8-8	150	.....	.....	.....

SPRAGUE Condensers

EXACT DUPLICATE REPLACEMENT CONDENSERS Cont.

Model No.	Part No.	Cap. Mfd.	Voltage	Type	Sprague Part No.	List Price	Model No.	Part No.	Cap. Mfd.	Voltage	Type	Sprague Part No.	List Price
(RCA) 112-112A-114 (G.E.) L52-L53	(old) 66172-2	8 4-8 10	300 175 25	Box	D-1057	\$2.50	UNITED AMER. BOSCH						
(RCA) 140-141-141E 240-340	(old) 66181	4	150	Box	D-898	1.20	360-361-364-440-441- 444-460-461-464- 585	CF-951	10-6	450			\$1.65
(G.E.) K-30-K80x- K85-K88	(new) 6626	10-10	25					CF-954	8	450	Can	D-1116	2.75
(RCA) 100-101 (G.E.) K43-M41	(old) 66185-2 (new) 6661	8-8 5-5 4-4 10	450 50 450 200	Box	D-1061	2.20	809	CF-959 CF-9520	20 40 12-12	25 150 25	Wet Box	W-2262 D-1157	1.20 1.25
(RCA) 221-M-65-M- 68-121-122 (G.E.) K-64	(old) 66189-1 (new) 6703	4-4 8 4	300 450 150	Box	D-1179	2.05	A-10	SA-103595	12-12 5-5 12-12	25 25 25	Tube	D-2053	.85
(RCA) 220-122 (G.E.) K56-K66M	(old) 66189-2 (new) 6691	4 8 12	300 350 25	Box	D-1056	2.25	305A	SA-102768	8-4 4 4 4	450 300 450 475	Can	D-1009 D-1015	3.25 2.10
(RCA) M34 (G.E.) B40	(old) 66197-2 (new) 3536	5-5	50	Tube	D-922	.75	250-251-312-313	SA-103740	4 4 4 4	300 450 350 300	Can	D-1012	2.85
	(old) 66197-6	4-4	160	Tube	D-448	.85	250	SA-103950	8-8 4	450 300	Can	D-1013	2.75
	(old) 68159-8	8	200	Can	D-1085	2.40	310A	SA-104422	4 4 4	450 350 300	Can	D-1196	3.00
	(old) 68531-2	10	200	Can	D-1088	2.40	305-405	SA-105237	8 20	450 25	Can	D-1183	2.75
	(old) 68560-1	4	200	Tube	D-1107	1.75	500	SA-105309	16-4-4	150 5 10	Box	D-1036	2.25
SPARTAN							355-357	SA-105700	12 8	150 150	Can		2.00
61-62	A-9550	25-5-5	175	Box	D-922	1.95	402-501-502	SA-105722	12-8-4	150 25	Box	D-1047	2.10
53-57-65-66-506-655	A-11093	25-5-5	175	Box	BT-1	1.95	370-371	SA-105828	4-4 4	300 475	Box	D-1051	3.00
STEWART WARNER							UTAH-STEWART						
10-20	81698	5-5	25	Box	IR-55	.75	1781	110376	4-8	400	Can		1.45
R-112	83111	8-8 5-5	250 25	Box	D-1195	1.95	WELLS GARDNER Latest Models						
STROMBERG CARLSON							45X215	18-18-4	150	Tube	D-792	1.95	
	24558	16-16 8-8 4	450 100 250	Box	D-1081	7.50	ZENITH 462-650HD-651HE- 660TD-661TE MT-26 9530-9554-9555						
	23969	4 8-16 4	350 450 250	Box	D-1065	7.00	22-183 22-236	8-8 8-8	250 300	Box Can	D-850 D-1180	1.30 2.00	
		8-8-4	100				22-407B 22-412 22-481	8-4-2 16-4-2 16-8-4	450 450 150	Tube Tube Box	D-1138 D-747 D-3220	1.85 2.25 1.80	
							22-484C 22-510C	16-8-4-4 8-8	250 450	Tube Tube	D-1167 D-776	2.70 2.10	
							7D119-7D126-7D151 6D116-117-118	8 8-4 16-4	250 250 250	Tube Tube	D-1380 D-1377	1.15 1.45	

NEW SPRAGUE SELF-MOUNTING DRY ELECTROLYTICS

A new series of Dry Electrolytic Condensers assembled in uninsulated, aluminum cans that have a self-mounting feature, wherein the mounting ear is bent back under the chassis. Connections are made to lug terminals. Each terminal is coded with a character, punched into the cover. In addition to the listings below, these condensers are available in single or multiple units 5, 10, 15, 20, 30, 40, 50 and 60 mfd. and in voltage ratings of 25, 35, 50, 75, 100, 150, 200, 250, 300, 350, 400 and 450 volts D.C. Bakelite mounting plates for insulating cans, 5 cents each, list.

Cat. No.	Cap. Mfd.	D.C. Working Voltage	Dimensions		New Reduced List Prices
			Diameter	Length	
EL-1	10	450v	1	x 2	\$0.75
EL-15	15	450v	1	x 2	1.00
EL-2	20	450v	1	x 2	1.10
EL-4	40	450v	1	x 3	1.60
EL-14	40	200v	1	x 3	.90
EL-5	50	350v	1	x 3	1.45
EL-6	60	250v	1	x 3	1.20
EL-210	10-10	450v	1	x 2	1.20
EL-220	20-20	450v	1	x 3	1.65
EL-120	20-20	250v	1	x 2	1.10
EL-240	40-40	450v	1 3/8	x 3	2.65
EL-25	50	150v	1	x 3	1.30
EL-26	60	150v	1 3/8	x 3	1.50
EL-320	20-20	150v	1	x 2	1.20
EL-340	40-40	150v	1	x 3	1.55
EL-22	20	300v			
	20	25v	1	x 2	1.10
EL-32	30-20	350v	1	x 3	1.45
EL-151	15-10	450v	1	x 2	1.30
EL-102	10-10	350v			
	20	25v	1	x 2	1.10
EL-202	10-10	450v			
	20	25v	1	x 3	1.30
EL-205	20-15	450v			
	20	25v	1 3/8	x 2	1.70
EL-212	20-10	350v			
	20	25v	1	x 3	1.30
EL-222	20-20	150v			
	20	25v	1	x 3	1.10
EL-422	40-20-10	200v			
	20	25v	1 3/8	x 3	1.55



NEW SPRAGUE ATOM TYPE VERTICAL MOUNTING CONDENSERS

When the underside of the chassis is too crowded, you will find the new Sprague LM Condensers ideally suited for vertical mounting on top of the chassis. The mounting feet make it possible to solder directly to the chassis, or by bending the feet back through the holes in the chassis for sturdy mounting. All the condensers have separate positive and separate negative leads, enclosed in a cardboard tube with leads all coming out of one end. They are well potted with a high melting point wax. These condensers are impervious to moisture and heat. The same high quality that exists in the standard ATOMS is found in these new units.



Cat. No.	Cap. Mfd.	Working Voltage	Dimensions		List Price
			Diameter	Length	
LM-121	20	150v	3/4	x 2 1/2	\$0.60
LM-8	8	450v	3/4	x 2 1/2	0.60
LM-16	16	430v	3/8	x 2 1/2	0.90
LM-220	20-20	150v	1	x 2 1/2	1.35
LM-28	8-8	250v	3/8	x 2 1/2	1.10
LM-216	16-16	250v	1	x 3	1.65
LM-88	8-8	450v	1	x 3	1.35
LM-2016	20-16-25	250-25v	1 1/4	x 3 1/2	2.05
LM-4020	40-20-25	250-25v	1 1/4	x 3 1/2	2.35

SPRAGUE *Condensers*

SPRAGUE HIGH-VOLTAGE MICAS

TYPE FM



Condenser is sealed in a low-loss, non-hydroscopic, casing of glazed high-voltage porcelain. The terminal seals are moisture-proof and the entire condenser section is embedded in a low-loss wax. The terminals are No. 10-32 machine screws, supplied with hex nuts. Supplied in 1000 to 5000 D.C. V. rating.

Cat. No.	Cap. Mfd.	Working Voltage	List Price
FMM-45	.00005	7,000	\$3.75
FMM-45	.00005	12,000	3.75
FMM-31	.0001	7,000	3.75
FMM-31	.0001	12,500	3.75
FMM-325	.00025	7,000	3.75
FMM-325	.00025	12,500	3.75
FMM-35	.0005	7,000	3.75
FMM-35	.0005	12,500	4.25
FML-21	.001	3,500	3.75
FMM-21	.001	7,000	4.25
FMM-21	.001	12,500	5.00
FML-215	.0015	3,500	4.00
FMM-215	.0015	7,000	4.75
FMM-215	.0015	12,500	5.50
FML-22	.002	3,500	4.25
FMM-22	.002	7,000	5.25
FMM-22	.002	12,500	6.50
FML-23	.003	3,500	7.00
FMM-23	.003	7,000	6.00
FMM-23	.003	10,000	8.00
FML-24	.004	3,500	5.50
FMM-24	.004	7,000	7.50
FMM-24	.004	10,000	9.00
FML-25	.005	3,500	6.00
FMM-25	.005	7,000	8.00
FMM-25	.005	10,000	9.50
FML-11	.01	3,500	7.00
FMM-11	.01	7,000	9.50
FML-12	.02	2,000	7.00
FMM-12	.02	3,500	8.75
FML-15	.05	2,000	8.75
FMM-15	.05	3,500	11.50
FML-1	0.1	2,000	11.50

SPRAGUE HIGH-VOLTAGE MICAS

TYPE 3FM

Molded in low-loss bakelite. Moisture-proof. The sturdy flanged copper lugs are excellent for single-hole mounting, and for mounting to screws or studs on condensers, coils, etc. Lug clearance hole for 6-32 machine screw.

Working Voltage..... 600
Test Voltage..... 1000

Cat. No.	Cap. Mfd.	List Price
3FM-45	.00005	\$0.25
3FM-47	.00007	.25
3FM-475	.000075	.25
3FM-31	.0001	.25
3FM-32	.0002	.25
3FM-325	.00025	.25
3FM-335	.00035	.25
3FM-35	.0005	.25
3FM-21	.001	.30
3FM-215	.0015	.30
3FM-22	.002	.35
3FM-225	.0025	.35
3FM-23	.003	.40
3FM-24	.004	.45
3FM-25	.005	.45
3FM-26	.006	.55
3FM-28	.008	.60
3FM-11	.01	.70



TYPES 7FM, 8FM, 9FM

Molded in low-loss bakelite. Moisture-proof. Condensers are intended for mounting directly by the wiring or by screws on insulators or insulating panels. Threaded screw bushings on both sides tapped for 6-32 machine screw. Supplied in 1000, 2500, and 5000 D.C. V. test.

TYPE 7FM

Test Voltage..... 1000

Cat. No.	Cap. Mfd.	List Price
7FM-45	.00005	\$0.40
7FM-31	.0001	.40
7FM-315	.00015	.40
7FM-32	.0002	.40
7FM-325	.00025	.40
7FM-35	.0005	.40
7FM-21	.001	.50
7FM-215	.0015	.50
7FM-22	.002	.50
7FM-23	.003	.60
7FM-24	.004	.60
7FM-25	.005	.70
7FM-26	.006	.85
7FM-28	.008	1.00
7FM-11	.01	1.15
7FM-112	.012	1.20
7FM-115	.015	1.25
7FM-12	.02	1.85
7FM-125	.025	2.30
7FM-13	.03	2.50
7FM-14	.04	3.25
7FM-15	.05	3.85

TYPE 8FM

Test Voltage..... 2500

Cat. No.	Cap. Mfd.	List Price
8FM-45	.00005	\$0.70
8FM-31	.0001	.70
8FM-315	.00015	.70
8FM-32	.0002	.70
8FM-325	.00025	.70
8FM-35	.0005	.70
8FM-21	.001	.90
8FM-215	.0015	1.15
8FM-22	.002	1.35
8FM-23	.003	1.55
8FM-24	.004	1.55
8FM-25	.005	1.75
8FM-26	.006	1.75
8FM-28	.008	2.25
8FM-11	.01	2.80
8FM-115	.015	3.35
8FM-12	.02	3.95
8FM-125	.025	4.40

TYPE 9FM

Test Voltage..... 5000

Cat. No.	Cap. Mfd.	List Price
9FM-45	.00005	\$0.90
9FM-31	.0001	.90
9FM-315	.00015	1.00
9FM-32	.0002	1.05
9FM-325	.00025	1.05
9FM-35	.0005	1.25
9FM-21	.001	1.50
9FM-215	.0015	1.95
9FM-22	.002	2.25
9FM-23	.003	2.75
9FM-24	.004	3.15
9FM-25	.005	3.30
9FM-26	.006	3.50
9FM-28	.008	3.80
9FM-11	.01	4.10

SILVERED MICA CONDENSERS

These tiny condensers have a minimum Q of 1500; temperature coefficient too small to measure, and a high stability on humidity better than that of most air condensers. Inductance is unusually low. Use them wherever the call is for an air condenser of equivalent voltage rating. Tank circuits present no limitations as in the case of most mica condensers.

TEST VOLTAGE 1000
VOLTS D.C.—
TOLERANCE 10%

Cat. No.	Cap. Mfd.	Cap. Mfd.	Working Volt. D.C.	Size Length	Size Width	List Price
SM-55	5	.000005	700	1 1/8 x	3/8	\$0.35
SM-41	10	.00001	700	1 1/8 x	3/8	.30
SM-415	15	.000015	700	1 1/8 x	3/8	.30
SM-42	20	.00002	700	1 1/8 x	3/8	.30
SM-425	25	.000025	700	1 1/8 x	3/8	.30
SM-45	50	.00005	700	1 1/8 x	3/8	.25
SM-31	100	.0001	700	1 1/8 x	3/8	.25
SM-32	200	.0002	700	1 1/8 x	3/8	.25
SM-33	300	.0003	700	1 1/8 x	3/8	.30
SM-34	400	.0004	700	1 1/8 x	3/8	.30
SM-35	500	.0005	700	1 1/8 x	3/8	.30
SM-36	600	.0006	700	1 1/8 x	3/8	.30
SM-37	700	.0007	700	1 1/8 x	3/8	.30
SM-38	800	.0008	700	1 1/8 x	3/8	.30
SM-39	900	.0009	700	1 1/8 x	3/8	.30
SM-21	1000	.001	700	1 1/8 x	3/8	.35
SM-22	2000	.002	700	1 1/8 x	3/8	.40
SM-23	3000	.003	700	1 1/8 x	3/8	.50
SM-24	4000	.004	700	1 1/8 x	3/8	.55
SM-25	5000	.005	700	1 1/8 x	3/8	.60

At the list prices given, tolerance limits are plus and minus 10%. For 5% tolerance, increase list prices by 10%; for 3%, by 20%; for 2%, by 30%; for 1%, by 50%.

SPRAGUE FIXED MICA CONDENSERS

Types 1FM and 2FM
Stamped with Ratings

The latest addition to the Sprague Line—and the finest Fixed Mica Condensers yet presented.

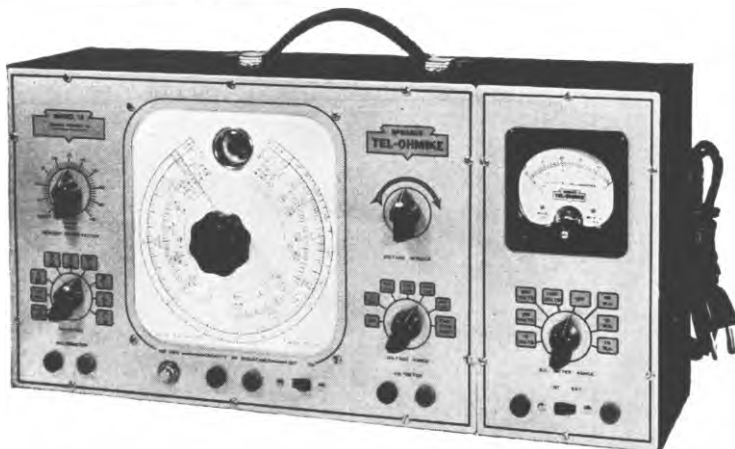
INTERMEDIATE CAPACITIES AVAILABLE

Cat. No.	Cap. Mfd.	Work. Volt.	List Price	Cat. No.	Cap. Mfd.	Work. Volt.	List Price
1FM-45	.00005	600	\$0.15	1FM-25	.005	600	\$0.50
1FM-31	.0001	600	.15	1FM-26	.006	600	.60
1FM-32	.0002	600	.15	2FM-44	.00004	300	.15
1FM-325	.00025	600	.20	2FM-45	.00005	300	.15
1FM-35	.0005	600	.20	2FM-475	.000075	300	.15
1FM-21	.001	600	.25	2FM-31	.0001	300	.15
1FM-215	.0015	600	.25	2FM-315	.00015	300	.15
1FM-22	.002	600	.30	2FM-32	.0002	300	.15
1FM-23	.003	600	.40	2FM-325	.00025	300	.20
1FM-24	.004	600	.45	2FM-35	.0005	300	.20



TEL-OHMIKE

CONDENSER-RESISTOR ANALYZER



Determines every basic characteristic in all types of Condensers and Resistors. Detects intermittent opens, shorts, grounds, and leakage in any component or circuit. Checks continuity. Detects shorted condensers without disconnecting them.

**AN UP-TO-THE-MINUTE
OBSCOLESCENCE-PROOF
INSTRUMENT**

De Luxe TEL-OHMIKE

Contains a built-in DC volt-milliammeter in addition to the standard TEL-OHMIKE analyzer. Switch and pin jacks provide for external measurements with the meter. Meter ranges, selected through an 8 position switch, are 15, 150, 500, 1500 volts D.C., and 1.5, 15, and 50 MA, D.C. An "off" position is provided between voltage and MA ranges for meter safety.
Size: 17½" x 9" x 6¼" Weight: 15½ lbs.

Cat. No. TO-2, NET PRICE..... **\$39.95**

Standard TEL-OHMIKE

The complete condenser-resistor analyzer. Same as De Luxe unit except built-in meter panel at right is omitted. Jacks are provided for connection of meters you already own, permitting a worth while saving. Present owners of standard units can have them converted to De Luxe models at nominal cost.
Size: 13⅞" x 9" x 6¼" Weight: 14 lbs.

Cat No. TO-1, NET PRICE..... **\$29.70**

Compare these ELEVEN outstanding features with those of any other analyzer, and see for yourself the exclusive features and advantages of TEL-OHMIKE!

- 1. Direct Reading Scales**, giving quick, visual indications of all factors measured.
- 2. Widest Resistance and Capacity Range** available in any commercial analyzer. TEL-OHMIKE measures capacity on direct reading scales from .000010 to 2000 mfd., which covers from the minimum capacity values of air condensers to the capacity of the largest motor-starting condenser.
- 3. All Condenser Types Can Be Analyzed.** TEL-OHMIKE measures characteristics of air, mica, paper, oil, wet electrolytic, and dry electrolytic condensers.
- 4. Measures Resistance** from .5 ohms to 5 megohms on direct reading scales.
- 5. Measures Insulation Resistance Up To 10,000 Megohms.** This is the highest insulation resistance scale available on any condenser analyzer. Competitive instruments depend on neon lamps for guesswork "indication," or at best do not read beyond 100 to 200 megohms. This is not a sufficiently high range because the minimum leakage resistance of condensers is of the order of 100 megohms per mfd. and many of the condensers used in radio work should have insulation resistances in the thousands of megohms. Heretofore, it has not been possible to measure, accurately, the leakage resistance of condensers, which is a very important characteristic in all units today. The insulation resistance of such components as Oil Condensers can be measured directly on the TEL-OHMIKE under high voltage up to 1000 volts.
- 6. Measures Electrolytic Condenser Leakage Current** directly on your milliammeter, for which connecting pin jacks are provided on the stan-

ard TELOHMIKE. Pin jacks are also provided for connection of your voltmeter, to set the working voltage of the condenser, under which all measurements are made.

- 7. Measures Power Factor** of electrolytic condensers on direct reading scales up to 50% power factor.
- 8. Condensers Tested at Exact Working Voltages.** The TEL-OHMIKE measures the characteristics of condensers under their exact working voltage. This is the first time that it has been possible to actually place a voltmeter in the circuit, and set by means of continually variable voltage controls, the exact working voltage of the condenser, and to measure the leakage current, insulation resistance, power factor, and capacity under exact working conditions.
- 9. All Indications by Means of "Magic Eye" Tube.**
- 10. Self-Contained Power Supply.** The TEL-OHMIKE has a self-contained power supply, and all that is necessary to make measurements is to plug the instrument in the power source, and turn it on.
- 11. Table of Condenser Characteristics** is included in the instruction manual supplied with the TEL-OHMIKE. This table gives the normal characteristics of all types of condensers, and gives actual readings, showing when condensers should be replaced.

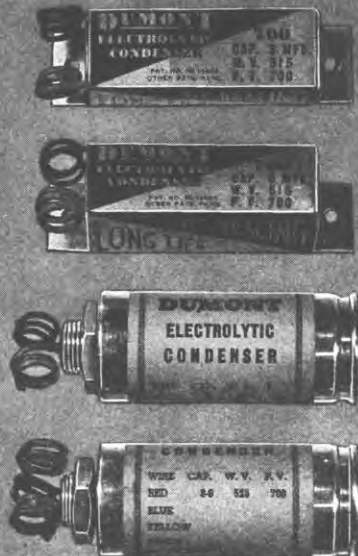
This is the first time that this information has been available to the serviceman. No more guesswork about condensers! !

DUMONT

Precision-Built CONDENSERS

PAPER • ELECTROLYTIC • MICA

Quality
PLUS
Economy



TYPE 700 SUPERVOLT

Dumont condensers are not built "On a price". Quality is our supreme watchword. Nothing is left out to make Dumont condensers the "World's Finest" and at a low cost to you. All economies of our plants are passed on to the serviceman in the form of lower prices without sacrificing one iota of quality. They are used by the U. S. Government and by the largest set makers in the world, which is true testimony to their fine quality.

FIRST DRY ELECTROLYTIC CONDENSERS

The first "Drys" were made by Dumont engineers and are now used as standard throughout the trade in all parts of the world. Our pioneering results are reflected in the best condensers at substantial savings.

IN FIBRE BOX CONTAINERS

Cat. No.	Cap.	W.V.	Size	List Price	Net Price
7A.....	2	515	3/4x1x3	\$0.80	\$0.40
7B.....	4	515	3/4x1x3	.90	.45
7C.....	8	515	3/4x1x3	1.00	.50
7D.....	12	515	3/4x1x3	1.25	.62
7E.....	16	515	1x1 1/2x3	1.50	.75
7F.....	4-4	515	1x1 1/2x3	1.20	.60
7G.....	8-8	515	1x1 1/2x3	1.50	.75
7H.....	8-8-8	515	.....	2.00	1.00

IN ROUND ALUMINUM CANS

Cat. No.	Cap.	W.V.	Size	List Price	Net Price
7CA.....	2	515	1x3/8x4	\$1.15	\$0.60
7CB.....	4	515	1x3/8x4	1.20	.60
7CC.....	8	515	1x3/8x4	1.25	.62
7CD.....	12	515	1x3/8x4	1.50	.75
7CE.....	16	515	1x3/8x4	2.00	1.00
7CF.....	4-4	515	1x3/8x4	1.50	.75
7CG.....	8-8	515	1x3/8x4	2.00	1.00

SUPER COMPACTS



FEATURES:

- 1—Self-healing
- 2—Long Life
- 3—Excellent Power Factor
- 4—Mounting Legs
- 5—Silver Fibre Box

Cat. No.	Cap.	W.V.	Size	List Price	Net Price
6A.....	2	450	3/4x1x2 1/4	\$0.80	\$0.40
6B.....	4	450	3/4x1x2 1/4	.90	.45
6C.....	8	450	3/4x1x2 1/4	.95	.47
6D.....	12	450	3/4x1x2 1/4	1.30	.65
6E.....	16	450	1x1 1/2x2	1.45	.72
6F.....	4-4	450	1x1 1/2x2	1.20	.60
6G.....	8-8	450	1x1 1/2x2	1.50	.75
6H.....	8-8-8	450	1x1 1/2x2	1.85	.92

SUPER COMPACTS

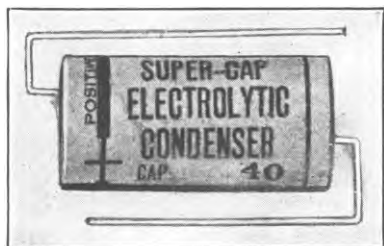
IN CANS

Small compact high-voltage 1-inch round cans, same quality, same performance as larger size cans, but very much reduced to conserve space; self-healing, long life, moisture-proof and properly sealed.



Cat. No.	Cap.	W.V.	Size	List Price	Net Price
6CA.....	4	450	1x3	\$0.90	\$0.45
6CB.....	8	450	1x3	1.05	.52
6CC.....	12	450	1x3	1.40	.70
6CD.....	16	450	1x3	1.50	.75
6CE.....	8-8	450	1 1/4x3	1.60	.80

SUPERCAPS—Small Size 7/8 x 1-3/4, for 8 Mfd.—450 Volts, Etc.



FEATURES

- 1—Self-Healing
- 2—Long Life
- 3—Varnished Tubes
- 4—No Acid Used
- 5—High Density, Perforated Foil

Cap.	Cat. No.	W.V.—450		Cat. No.	W.V.—250		Cat. No.	W.V.—150	
		List	Net		List	Net		List	Net
4	TA	\$0.55	\$0.27	TK	\$0.45	\$0.22	TAA	\$0.40	\$0.20
8	TB	.60	.30	TL	.50	.25	TBB	.45	.22
12	TC	.75	.37	TM	.65	.32	TCC	.50	.25
16	TD	.90	.45	TN	.75	.37	TDD	.55	.27
20	TE	1.09	.50	TO	.85	.42	TEE	.60	.30
30	TF	1.50	.75	TP	1.00	.50	TEF	.65	.32
40	TG	2.00	1.00	TQ	1.50	.75	TGG	.65	.32
8-8	TH	1.00	.50	TR	.95	.47	THH	.65	.32
16-16	TI	1.50	.75	TS	1.25	.62	TII	1.00	.50
20-20	TJ	2.00	1.00	TT	1.50	.75	TJJ	1.25	.62

Cap.	Cat. No.	W.V.—50		Cat. No.	W.B.—35	
		List	Net		List	Net
10	TNN	\$0.50	\$0.25	TKK	\$0.40	\$0.20
25	TOO	.60	.30	TLL	.50	.25
50	TPP	.70	.35	TMM	.60	.30

TYPE "RP" UNCASED

Oil impregnated and vacuum sealed



Cat. No.	Cap.	600 VOLTS		Cat. No.	1000 VOLTS	
		List	Net		List	Net
RPA	.5	\$0.50	\$0.25	RPE	\$0.85	\$0.42
RPB	1.	.90	.45	RPF	1.50	.75
RPC	2.	1.65	.67	RPG	2.50	1.25
RPD	4.	2.50	.25	RPH	4.50	2.25

Cat. No.	Cap.	2000 VOLTS	
		List	Net
RPI	\$1.50	\$0.75
RPJ	2.50	1.25
RPK	4.50	2.25
RPL	8.00	4.00

WET ELECTROLYTICS

Cat. No.	Cap.	500 V. P.	
		List	Net
WA	8	\$0.95	\$0.47
WB	12	1.15	.57
WC	16	1.35	.67
WD	25	1.50	.75
WE	40	.....	.....

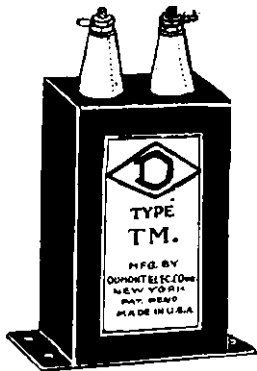
Cat. No.	Cap.	300 V. P.	
		List	Net
WF	8	\$0.90	\$0.45
WG	12	1.10	.55
WH	16	1.25	.62
WI	25	1.45	.72
WJ	40	1.50	.75

Cat. No.	Cap.	150 V. P.	
		List	Net
WK	8	\$0.80	\$0.40
WL	12	.90	.45
WM	16	1.00	.50
WN	25	1.10	.55
WO	40	1.20	.60



TRANSMITTING CONDENSERS

Oil Impregnated and Properly Sealed



Cat. No.	Cap.	600 V.	
		List	Net
TRA	1	\$2.75	\$1.37
TRB	2	3.50	1.75
TRC	4	4.50	2.25
Cat. No.	Cap.	1000 V.	
		List	Net
TRD	1	\$3.00	\$1.50
TRE	2	4.00	2.00
TRF	4	5.00	2.50
Cat. No.	Cap.	2000 V.	
		List	Net
TRG	1	\$4.50	\$2.25
TRH	2	5.50	2.75
TRI	4	9.00	4.50
Cat. No.	Cap.	3000 V.	
		List	Net
TRJ	1	\$12.50	\$6.25
TRK	2	15.00	7.50
TRL	4	20.00	10.00

BUFFER CONDENSERS—Oil Impregnated

2000 W. V.

Cat. No.	Cap.	List	Net	Cat. No.	Cap.	List	Net
ABA	.001	\$0.35	\$0.17	ABF	.03	\$0.35	\$0.17
ABB	.002	.35	.17	ABG	.03	.40	.20
ABC	.005	.35	.17	ABH	.04	.45	.22
ABD	.008	.35	.17	ABI	.05	.45	.22
ABE	.01	.35	.17				

OTHER DUMONT PRODUCTS

- Dumont Line Noise Filters..... List \$5.00
- Exact Replacements for Radio Sets and Motor Starts
- Paper Condensers for Electrolytic Replacements

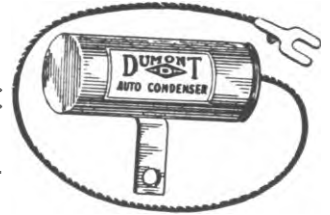
Apply for Quantity Prices

All DUMONT Condensers are U. S. Patented

AUTO RADIO CONDENSERS

SPECIFICATIONS

- 1—Brass cadmium-plated shell.
- 2—Steel clamp welded to can.
- 3—4-00035 Kraft papers.
- 4—Aluminum foils.
- 5—500 megohms resistance.
- 6—Voltage breakdown 1200 V.
- 7—Tested at 500 V. D. C.
- 8—Oil impregnated.
- 9—Wax sealed 225° F.



Cat. No.	Cap.	List	Net
GA25	\$0.45
GB5	.50
GC	1.	.70
GD	Ford	.50

SILVERED MICA CONDENSERS

Highly essential to push-button sets and for elimination of microphonic noises; low-loss ceramic case, high "Q".

No Drift; Moisture Proof;

Accuracy Guaranteed



Cat. No.	Mmf.	List	Net	Cat. No.	Mmf.	List	Net	Cat. No.	Mmf.	List	Net
SA	5	\$0.30	\$0.15	SG	100	\$0.40	\$0.20	SM	800	\$0.70	\$0.35
SB	10	.30	.15	SH	200	.45	.22	SN	1000	.80	.40
SC	15	.30	.15	SI	300	.50	.25	SO	2000	1.00	.50
SD	20	.30	.15	SJ	400	.55	.27	SP	3000	1.25	.62
SE	25	.30	.15	SK	500	.60	.30	SQ	4000	1.50	.75
SF	50	.30	.15	SL	600	.70	.35	SR	5000	2.00	1.00

Accuracy 2½%—for 1% add 30¢ to list prices.

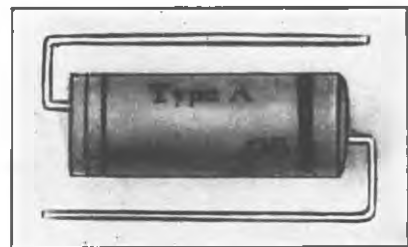
LOW-LOSS MICA CONDENSERS

The extremely fine power factor due to low-loss housing; moisture-proof

Cat. No.	Cap.	List	Net	Cat. No.	Cap.	List	Net
MA	.....00005	\$0.15	\$0.07	MF	.....001	\$0.25	\$0.12
MB	.....0001	.15	.07	MG	.....002	.30	.15
MC	.....0002	.15	.07	MH	.....003	.35	.17
MD	.....00025	.20	.10	MI	.....004	.40	.20
ME	.....0005	.25	.12	MJ	.....005	.50	.25
				MK	.....006	.60	.30

PAPER TUBULARS

Type A—600 V.



Oil impregnated, wax sealed. Millions in use.

Cat. No.	Cap.	List	Net	Cat. No.	Cap.	List	Net
AA	.....001	\$0.15	\$0.07	AI	.....03	\$0.20	\$0.10
AB	.....002	.15	.07	AJ	.....04	.20	.10
AC	.....003	.15	.07	AK	.....05	.20	.10
AD	.....004	.15	.07	AL	.....1	.25	.12
AE	.....005	.15	.07	AM	.....25	.35	.17
AF	.....006	.15	.07	AN	.....5	.50	.25
AG	.....01	.20	.10	AO	.....1	.80	.40
AH	.....02	.20	.10				

CONDENSERS



RESISTORS

UNCASED CONDENSERS



G-H Condensers are conservatively rated with a 4 to 1 safety factor, yet very compact. All units provide J with push back leads.

Completely sealed against moisture in cellophane and wax. Thoroughly dependable under all conditions. One year guarantee.

300 VOLTS D.C. WORKING					
Type	Mfd.	High	Wide	Thick	List Price
12X	.1	1 1/4	3/8	1/4	\$0.35
12Y	.25	1 1/4	3/8	3/8	.40
12Z	.5	1 1/4	1	1/2	.50
121	1	2 1/8	1	3/4	.65
122	2	2 1/8	1 1/4	3/4	1.00

600 VOLTS D.C. WORKING					
Type	Mfd.	High	Wide	Thick	List Price
141	1	2 1/4	1 1/4	1 1/2	\$0.90
142	2	2 1/4	2 1/4	1	1.35
241	1	3	1 1/2	1 1/2	.90
242	2	3	2	3/4	1.35

400 VOLTS D.C. WORKING					
Type	Mfd.	High	Wide	Thick	List Price
13X	.1	2 1/8	1	1/4	\$0.40
13Y	.25	2 1/8	1	3/8	.45
13Z	.5	2 1/8	1 1/4	1/2	.55
131	1	2 1/8	1 1/4	3/4	.75
132	2	2 1/8	1 3/4	1	1.15

1000 VOLTS D.C. WORKING					
Type	Mfd.	High	Wide	Thick	List Price
35X	.1	3 3/8	1 1/2	3/4	\$0.80
351	1	3 3/8	2 1/2	3/4	1.50
352	2	3 3/8	2 1/2	1 1/4	2.50

1300 VOLTS D.C. WORKING					
Type	Mfd.	High	Wide	Thick	List Price
361	1	3 3/4	2 1/4	1	\$1.90
362	2	3 3/4	2 1/2	1 1/2	3.50

ELECTROLYTIC REPLACEMENTS



1500 VOLT TEST

PAPER WOUND

These dry paper units are unaffected by age or weather. With no current leakage they provide better filtration over long periods of service.



500 W-V. 700 V. PEAK. ALL CAPACITIES.			
Type	To Replace	Cardboard Container	List Price
P1	1 Mfd.	1 3/8 x 3/8 x 2	\$0.75
P2	2 Mfd.	1 3/8 x 1 x 2	.85
P4	4 Mfd.	1 3/8 x 3/4 x 4 1/8	.95
P8	8 Mfd.	1 3/8 x 1 x 4 3/8	1.15
P4-4	4-4 Mfd.	1 3/8 x 1 1/4 x 4 3/8	1.90
P4-8	4-8 Mfd.	1 3/8 x 1 1/4 x 4 3/8	2.10
P8-8	8-8 Mfd.	1 3/8 x 1 1/4 x 4 3/8	2.20

STANDARD SHAPES			
Type	To Replace	Round Can	List Price
C8	8-Mfd.	1 1/2 Dia.	\$1.45
C8-8	8-8 Mfd.	2 1/2 Dia.	2.55
C8-8-8	8-8-8 Mfd.	3 Dia.	3.90
C8-8-8-8	8-8-8-8 Mfd.	3 Dia.	5.25
C9-9-18	9-9-18 Mfd.	3 Dia.	4.95
C5-15	5-15 Mfd.	2 1/2 Dia.	3.25

600-VOLT TUBULAR CONDENSERS



This type condenser with 600 W. V. is small in size, strongly constructed, safely sealed, and with self supporting lead wires which, securely anchored through center bar, will not loosen or break off. These low capacity condensers, requiring very little space, are extremely efficient with lasting merits.

Type	Mfd.	List Price	Type	Mfd.	List Price
P0001	.0001	\$0.25	P02	.02	.25
P0025	.00025	.25	P03	.03	.25
P005	.0005	.25	P04	.04	.25
P001	.001	.25	P05	.05	.30
P002	.002	.25	P06	.06	.30
P005	.005	.25	PX	.1	.35
P006	.006	.25	PY	.25	.50
P01	.01	.25	PZ	.5	.60

INTERFERENCE FILTERS

Code	List Price
DPZ—General Interference	\$1.75
F2—Motor Filter	2.50
F3—Condenser—Choke Combination	4.00
F4—Motor Filter	3.75
F1—Plug-In	1.00

AUTO CONDENSERS

G-H Suppressor Units are sturdily constructed to withstand heat and vibration.

Code	Cap.	List Price
AUZ	.5 Mfd.	\$0.50
AU1	1. Mfd.	.70
Ford	5 Mfd.	.60

600-VOLT CERAMIC TUBULAR CONDENSERS



Small non-inductive 600-Volt Tubulars in CERAMIC tubes. Moisture and heat proof. Leads cannot loosen or break.

Type	Mfd.	List Price	Type	Mfd.	List Price
C0001	.0001	\$0.15	C03	.03	\$0.20
C0025	.00025	.15	C04	.04	.20
C005	.0005	.15	C05	.05	.20
C001	.001	.15	C06	.06	.20
C002	.002	.15	CX	.1	.25
C005	.005	.15	CY	.25	.35
C006	.006	.15	CZ	.5	.50
C01	.01	.15	C1	1.	.90
C02	.02	.20			

ATWATER KENT BY-PASS

A small Replacement Condenser for Atwater Kent Sets.

Code	Mfd.	W. V.	List Price
A22Z	.5	300	\$0.50

SPARTON BY-PASS

Thoroughly Sealed in Metal Case with a 400 V. rating.

Code	Mfd.	List Price
TY	.25	\$0.60
T1	1.	1.00

VIBRATOR CONDENSERS

1500 VOLTS

Type	Cap.	List Price	Type	Cap.	List Price	Type	Cap.	List Price
501	.01	\$0.60	504	.01	\$0.30	503	.01	\$0.45
	.02			.02	.40		.02	.45

HIGH VOLTAGE PAPER CONDENSERS

FOR PA WORK AND LOW-POWERED TRANSMITTERS

Heavy duty paper condensers safely sealed in cardboard container. Wire leads with mounting brackets.

Type	Mfd.	Work Volts	High	Shape Wide	Thick	List Price
B41	1	600	2 1/4	1 1/4	1 1/4	\$0.90
B42	2	600	2 1/8	2 1/4	1 3/8	1.35
B44	4	600	4 1/4	1 1/2	1	2.25
B51	1	800	4 1/4	1 1/2	1 1/2	1.90
B52	2	800	4 1/4	1 1/2	1	2.85
B54	4	800	4 1/4	2	1 3/8	2.85

PANEL MOUNTINGS

DRAWN METAL CASES

800 and 1000 volt condensers sealed in drawn metal cans.

Type	Mfd.	Work Volts	High	Shape Wide	Thick	List Price
A1	1	800	2	1 1/4	1 1/8	\$1.55
A2	2	800	3 1/4	1 3/4	1 3/8	2.25
A4	4	800	4 1/4	1 3/4	1 3/8	3.20
HA1	1	1000	3 1/4	1 3/4	1 3/8	1.85
HA2	2	1000	4 1/4	1 3/4	1 3/8	2.85

CASED BY-PASS

Type	Mfd.	List Price
BAX	.1	\$0.50
BAY	.25	.60
BAZ	.5	.70
BAXX	1-1	.75
BAXXX	1-1-1	1.00

400 Volt. Can Size—1 1/4 x 2 x 3/4
These Stamped Metal Cased Condensers are small and very handy for all Replacements.

CASED BY-PASS

Type	Mfd.	List Price
DAZ	.5	\$0.70
DA1	1	.85
DAYY	.25-25	1.00
DAZZ	.5-5	1.25

400 Volt. Can Size—2 x 1 1/4 x 3/4
This type is an exact duplicate of that used in a great number of sets. Standard mounting holes.

CONDENSERS RESISTORS

ELECTROLYTIC CONDENSERS



High Voltage Midget Electrolytics

Single and Dual Section

450 W.V. 500 V. Peak

These units are of the highest quality and small size.

Code No.	Capacity	Height	Width	Thickness	List Price
EW01	1 Mfd.	2 1/2	3/4	3/8	\$0.55
EW02	2 Mfd.	2 3/8	3/4	3/8	.65
EW04	4 Mfd.	2 3/4	3/4	3/8	.75
EW08	8 Mfd.	2 7/8	1	3/8	.95
EW44	4+4	2 3/4	1 1/2	1	1.20
EW88	8+8	2 3/4	1 1/2	1 1/2	1.50



Low Voltage Midget Electrolytics

200 W.V. 220 V. Peak

Space saving units for repairs in A.C., D.C. and compact sets. These units are of the highest quality and small size.

Code No.	Capacity	Height	Width	Thickness	List Price
ER4	4 Mfd.	2 3/8	3/4	3/8	\$0.65
ER6	6 Mfd.	2 3/8	3/4	3/8	.75
ER8	8 Mfd.	2 3/8	3/4	3/8	.80
ER10	10 Mfd.	2 3/8	3/4	3/8	.90
ER12	12 Mfd.	2 3/8	1	3/8	.95
ER16	16 Mfd.	2 3/8	1	3/8	1.05
ER20	20 Mfd.	2 3/8	1	3/8	1.20
ER25	25 Mfd.	2 3/8	1	3/8	1.25



High Voltage Standard Electrolytics

Single and Dual Section

450 W. V. 500 V. Peak

Permanently sealed in wax. Unaffected by weather conditions

Code No.	Capacity	Height	Width	Thickness	List Price
EA04	4 Mfd.	4 1/4	1 1/4	3/8	\$0.75
EA06	6 Mfd.	4 1/4	1 1/4	3/8	.90
EA08	8 Mfd.	4 1/4	1 1/4	3/8	.95
EA010	10 Mfd.	4 1/4	1 1/4	3/8	1.15
EA012	12 Mfd.	4 1/4	1 1/4	3/8	1.30
EH044	4+4	4 3/4	1 3/4	1 1/4	1.20
EH048	4+8	4 3/4	1 3/4	1 1/4	1.35
EH088	8+8	4 3/4	1 3/4	1 1/2	1.50

Cartridge Electrolytics

High Capacity

Tubular units offering high capacities. Small space. Low cost



Code No.	Capacity	Peak	Length	Diameter	List Price
ET4	4 Mfd.	500 V.	2 3/8	3/8	\$0.75
ET8	8 Mfd.	500 V.	2 3/8	3/8	.90
ET12	2 Mfd.	175 V.	1 3/4	3/8	.50
ET14	4 Mfd.	175 V.	1 3/4	3/8	.60
ET18	8 Mfd.	175 V.	2 1/4	3/8	.75
ET610	10 Mfd.	60 V.	2 3/4	3/8	.65
ET335	5 Mfd.	35 V.	1 3/4	3/8	.50
ET310	10 Mfd.	35 V.	1 3/4	3/8	.50
ET325	25 Mfd.	35 V.	2 1/2	3/8	.65
ET55	5+5	35 V.	2	3/8	.75
ET1010	10+10	35 V.	2 1/2	1	.75



A.C.-D.C. Exact Replacements

These units are the same as used in many popular sets.

Mounting Flanges on all Units

Code No.	Capacity	Volts	Size	List Price
EF44	4+4	175	2 1/2" x 1" x 3/4"	\$0.85
EF88	8+8	175	3" x 1 1/2" x 1"	1.20
EF168	16+8	175	4 1/4" x 1 1/2" x 1 1/2"	1.35
EF255	25+5	175	3" x 2" x 1"	1.40
EF2168	16+16+8	175	4 3/4" x 1 1/2" x 1 1/2"	2.55
EF2555	25+5+5	175	2 1/4" x 1 1/2" x 1 1/2"	1.95
EF888	8+8+8	250	2 3/4" x 2 1/2" x 1 1/2"	1.90

Can Type Electrolytics

Single and Multiple Sections

450 W.V. 500 V. Peak



Code No.	Capacity	Dia.	Can Type	List Price
ED08	8 Mfd.	1 3/8	Insulated Can	\$1.05
ED044	4+4 Mfd.	1 3/8	" "	1.30
ED048	4+8 Mfd.	1 3/8	" "	1.45
ED088	8+8 Mfd.	1 3/8	" "	1.60
EC8	8 Mfd.	1 3/8	Grounded Can	1.05
EP88	8+8 Mfd.	2 1/2	" "	1.80
EP515	5+15 Mfd.	2 1/2	" "	2.30
EQ888	8+8+8 Mfd	3	" "	2.70
EQ9918	9+9+18 Mfd.	3	" "	3.75
EQ8888	8+8+8+8	3	" "	3.60

TRANSMITTING CONDENSERS

Wax Sealed Heavy Duty Units
Built for Years of Service



W.V.	Cap.	Can Size	List Price
1000	1	2 1/2	\$2.90
1000	2	2 3/4	4.30
1500	1	3	4.00
1500	2	3	5.50
2000	1	3	4.90
2000	2	3	6.75
3000	1	3 1/2	9.50
3000	2	3 1/2	14.00
4000	1	25,000	20.00
4000	2	Rect.	34.00
5000	1	Rect.	26.00
5000	2	Rect.	45.00

WET ELECTROLYTICS

Self Healing Wet Electrolytics

Type	Cap	Volts	List Price
WE4	4 Mfd.	500	\$0.90
WE8	8 Mfd.	500	1.00
WE12	12 Mfd.	500	1.20
WE16	16 Mfd.	500	1.40
WE20	20 Mfd.	500	1.50
WE30	30 Mfd.	500	2.00



CARBON RESISTORS

Accurate molded Carbon Resistors of the Highest Grade—Non-inductive.



Watt	List Price
1/2 Watt	\$0.15
1 Watt	.15
3 Watt	.25

INSULATED RESISTORS

A small accurate resistor molded in bakelite for protection against moisture and shorts

1/2 Watt, Size 3/8 x 3/8 List Price \$0.17



Actual Size.

STOCK VALUES IN 1/2 WATT-OHMS

100	1,500	15,000	200,000
150	2,000	20,000	250,000
200	2,500	25,000	300,000
250	3,000	30,000	400,000
300	3,500	40,000	500,000
400	4,000	50,000	750,000
500	5,000	60,000	1 Meg.
600	6,000	75,000	2 Meg.
750	7,500	100,000	3 Meg.
1,000	10,000	150,000	4 Meg.
			5 Meg.

STOCK VALUES IN 1/2-1-3 WATT-OHMS

100	2,500	30,000	750,000
150	2,750	35,000	1 Meg.
200	3,000	40,000	2 1/2 Meg
250	3,500	50,000	2 Meg.
300	4,000	60,000	3 Meg.
400	5,000	70,000	4 Meg.
500	6,000	75,000	5 Meg.
600	7,500	85,000	6 Meg.
750	10,000	100,000	7 Meg.
900	12,500	125,000	8 Meg.
1,000	15,000	150,000	9 Meg.
1,250	17,500	200,000	10 Meg.
1,500	20,000	250,000	15 Meg.
1,750	22,500	300,000	20 Meg.
2,000	25,000	400,000	
2,250	27,500	500,000	



STOP RADIO NOISE!

— WITH —

Filterettes — ENDORSED BY THE NATION



THERE IS A TOBE FILTERETTE FOR EVERY TYPE OF EQUIPMENT

The TOBE Filterettes listed below are backed by a competent engineering staff with many years' experience and may be depended upon to eliminate all types of interference.

TOBE Engineers were pioneers in the work of stopping all types of radio interference, and their work in this field is largely responsible

for the interest in this problem today. If we do not list a Filterette which appears to meet your requirements, we will be glad to obtain it for you if you will send us the name of the appliance which is causing interference, together with its voltage and amperage ratings.

FILTERETTE JUNIOR



For use on vacuum cleaners, hair dryers, cash registers, drink mixers, dictating machines, sewing machines, floor polishers. Approved by Underwriters' Laboratories. 110 volts A.C. or D.C. Ship. wt. 6 oz.
List Price\$1.25

FILTERETTE SENIOR



For use on portable electrical tools and small motored appliances receiving their power from a circuit have one side grounded. Standard cap and receptacle. Designed for use on any 110 volt D.C. or A.C. circuit; will carry current of 2.5 amperes. Ship. wt. 1 lb. 1 oz.
List Price\$4.75

SIGN FLASHER FILTERETTES



Stop radio noise from traffic beacons, chasers, running borders, neon primary flashers, and airplane beacons. Contain correctly designed inductances and capacitances for maximum efficiency. Same type units as used by sign companies and flasher manufacturers.

Type No.	Number of Circuits	Amps. per Circuit	List Price
FS-110	1	4	\$12.50
NYL-2	2	10	20.00
NYL-4	4	10	38.00

ELECTRIC RAZOR FILTERETTE



A special unit for application to electric razors that spoil early morning radio programs. Installed at end of cord where it is completely out of way; reduces interference to a negligible value under practical conditions. Approved by Underwriters' Laboratories and leading makers of electric shavers. List Price.....\$1.00

OIL BURNER FILTERETTE, OB-110, All-Wave



For use on all oil burners to kill ignition interference. Contained in utility type knock-out box 4" x 2" x 2" with screw cover. Will carry 2 1/2 amperes at 110 volts. Listed by Underwriters' Laboratories.
List Price.....\$7.95

POWER LINE FILTERETTE RF-2

Use with radio sets to keep noise from entering receiver through power connection. Especially effective with D.C. receivers. Contains choke coils in both sides of line. Effectively shielded by rugged steel housing. 4-foot rubber cord has unbreakable rubber plug.....



List Price \$4.75

FILTERETTE JA



For use on same applications as Junior Filterette; for permanent connection where attachment cord is brought out of motor frame. Screw terminals for connections. Maximum noise reduction as installation is at noise source. Ship. wt. 6 oz.
List Price\$1.75

HEAVY DUTY FILTERETTE, 110-PO



Use with adding machines, juice extractors, dental engines, etc. Has chokes in both sides of line; gray enameled steel housing; 5 ft. rubber cord. Underwriters approved. 5 amperes—110 volts.
List Price.....\$10.50

DIATHERMY FILTERETTES

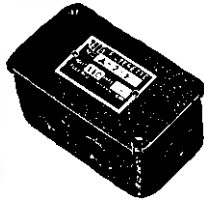


Stop feed-back of radio noise from diathermy and X-Ray to electric light and power lines. Recommended and approved by leading diathermy manufacturers. Must be used in shielded room. Supplied with installation instructions and shielding specifications.

Type No.	Amperes	Volts	List Price
1-HF0	6	110 A.C.	\$ 35.00
1-HF2	15	110 A.C.	75.00
1-HF3	25	110 A.C.	125.00

NEW CAPACITIVE FILTERETTES

For use with motors, mercury arc rectifiers, battery chargers, welding generators, and exciters. Contained in steel knock-out boxes for permanent installation in two-wire or three-wire electrical circuits. Insulated flexible leads for connection. Do not carry current, hence may be used without regard to size of interfering apparatus.



Type No.	Volts	Size	List Price
8-2-F	110	4" x 2" x 2"	\$ 6.50
B-2-F	220	4" x 2" x 2"	7.50
60	600	10" x 10" x 4"	25.00

INDUCTIVE-CAPACITIVE FILTERETTES



For use with compressors, elevators, floor polishers, repulsion motors, call systems, printing presses, rotary converters, refrigerators, etc. Have rugged steel cases with knock-outs for BX or conduit. Choke coils of heavy construction for cool operation and minimum voltage drop.

Type No.	Amperes	Volts	List Price
110	5	110	\$12.50
221	5	220	20.00
131	10	110	20.00

Filterettes in higher current ratings available on order.

OFFICIAL RADIO NOISE MANUAL Fourth Edition

The standard textbook on radio noise elimination containing basic information as accurate today as when the first edition was published in 1929. Gives practical hints on proved ways to stop radio noise. Based on original research of Tobe interference engineers. Contains 76 full size 8 1/2" x 11" pages, 61 photographs, 28 wiring diagrams, 24 drawings, sample survey report and interference ordinance. The complete guide to radio interference work List Price 50c



FILTERETTE SELECTOR

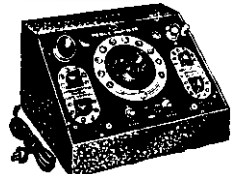


This useful tool shows just what Filterette will stop the radio noise from most electrical equipment. Rotary switch on sloping control panel gives direct reading of Filterette types. Contained in rugged steel case attractively finished in baked gray lacquer. Connection to apparatus under test is by standard plug and receptacle or special clip lead adapters. The Tobe Filterette Selector will be found particularly useful in demonstrating the results to be expected from Filterette installations.

Dealer Net Price\$7.50*

TOBE CONDENSER BRIDGE AND ANALYZER

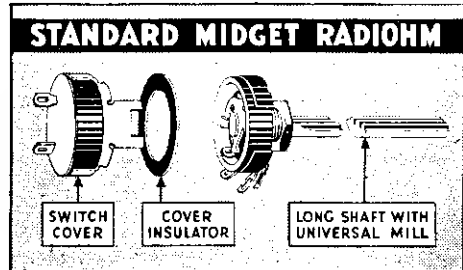
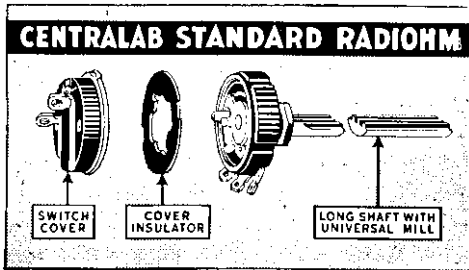
A direct reading instrument for testing condensers and resistors. Single linear scale of balance control provides maximum ease of reading. Decade switch for measurement of capacitance .00001 to 100 mfd. and resistance 1 to 1,000,000 million ohms. Effective scale length 5' 3" capacitance, 4' 6" for resistance. Amplifier stage with sensitivity control ahead of electronic eye balance indicator for rapid reading of all values. Voltage and leakage controls direct reading. Power factor 0 to 50%. Welded steel case finished in gray wrinkle enamel. Complete with all tubes 01A, 6E5, 6J7, neon indicator, primary fuse, color coded test leads, operating instructions.



Dealer Net Price\$32.50*

Centralab

Quality Controls • Resistors • Selector Switches



WALL TYPE RESISTOR hugs inner circumference of black molded bakelite case. Exclusive non-rubbing contact band assures quiet, smooth rotation and long life. Case dimensions: $1\frac{3}{8}$ " diameter x $9\frac{1}{16}$ " deep. Soft aluminum shaft extends $3\frac{3}{8}$ " from case; milled full length for push-on or set screw knob.

Companion to the Standard Radiohm, the Midget is necessary to replace original controls in many current models using small controls for space savers. Molded bakelite case, $1\frac{1}{8}$ " diameter. $\frac{1}{4}$ " soft aluminum shaft $3\frac{3}{8}$ " long.

CENTRALAB STANDARD RADIOHM WITHOUT TAP LESS SWITCH\$1.00 WITH SWITCH.....\$1.50

CENTRALAB MIDGET RADIOHM WITHOUT TAP LESS SWITCH\$1.00 WITH SWITCH.....\$1.50

Catalog Number		Usual Circuit Location	Resistance	
Without Switch	With Switch		Ohms	Curve
72-118	62-118	Voltage Divider	500	1
72-107	62-107	Voltage Divider	1000	1
72-101	62-101	Voltage Divider	2000	1
72-108	62-108	Voltage Divider	3000	1
72-109	62-109	Voltage Divider	4000	1
72-110	62-110	Voltage Divider	5000	1
70-204	52-204	Antenna Shunt	5000	6
72-139	62-139	Voltage Divider	7500	1
72-114	62-114	Antenna, C-bias	10000	1
72-113	62-113	Antenna, C-bias of One Tube	10000	3
70-205	52-205	Antenna, C-bias of Two Tubes	10000	4
72-100	62-100	Antenna Shunt	10000	6
72-115	62-115	Antenna, C-bias	15000	3
79-005	99-006	Antenna, C-bias	15000	4
72-119	62-119	Antenna, C-bias	20000	3
72-111	62-111	Voltage Divider	25000	1
70-203	52-206	C-bias	25000	4
72-102	62-102	Antenna Shunt	25000	3
72-103	62-103	Voltage Divider	50000	1
72-117	62-117	Tone Control	50000	6
72-123	62-123	Tone Control	75000	6
70-202	52-202	C-bias	75000	4
72-104	62-104	Voltage Divider	100000	1
72-122	62-122	Audio Grid or Tone	100000	6
72-136	62-136	Audio Grid or Tone	150000	6
72-120	62-120	Audio Grid or Tone	200000	1
72-131	62-131	C-bias	200000	4
72-121	62-121	Audio Grid or Tone	250000	6
72-105	62-105	Audio Grid or Tone	500000	6
72-106	62-106	Voltage Divider	500000	1
70-203	52-203	Series in R. F. Plate	500000	4
72-140	62-140	Audio Grid or Tone	750000	6
72-116	62-116	Audio Grid or Tone	1 Meg.	6
72-137	62-137	Audio Grid or Tone	2 Megs.	6
72-132	62-132	Audio Grid or Tone	3 Megs.	6

Catalog Number		Usual Circuit Location	Resistance	
Without Switch	With Switch		Ohms	Curve
NF-106	PF-106	Voltage Divider	500	1
NF-107	PF-107	Antenna, C-bias	10000	1
NF-100	PF-100	Antenna, C-bias of One Tube	10000	3
NF-108	PF-108	Antenna, C-bias of Two Tubes	10000	4
N-109	P-109	Antenna Shunt	10000	6
NF-110	PF-110	Antenna, C-bias of One Tube	15000	3
NF-111	PF-111	Antenna, C-bias of Two Tubes	15000	4
NF-112	PF-112	Antenna, C-bias	20000	3
NF-113	PF-113	Voltage Divider	25000	1
NF-101	PF-101	Antenna, C-bias	25000	3
N-114	P-114	Voltage Divider	50000	1
N-115	P-115	Tone Control	50000	6
N-116	P-116	Voltage Divider	100000	1
N-117	P-117	Audio Grid or Tone	100000	6
N-102	P-102	Audio Grid or Tone	250000	6
N-118	P-118	Voltage Divider	500000	1
N-103	P-103	Audio Grid or Tone	500000	6
N-104	P-104	Audio Grid or Tone	1 Meg.	6

TAPPED STANDARD RADIOHM LESS SWITCH\$1.50 WITH SWITCH.....\$2.00

TAPPED MIDGET RADIOHM LESS SWITCH\$1.50 WITH SWITCH.....\$2.00

Cat. No.	Circuit	Price
72-138	62-138 Tapped Audio Grid	250000 10
72-134	62-134 Tapped Audio Grid	500000 10
72-135	62-135 Tapped Audio Grid	1 Meg. 10
72-142	62-142 Tapped Audio Grid	2 Megs. 10

Catalog Number		Maximum Resistance	Tap Resistance
Without Switch	With Switch		
NT-119	PT-119	250M	75M
NT-147	PT-147	250M	125M
NT-148	PT-148	350M	75M
NT-120	PT-120	500M	150M
NT-149	PT-149	500M	250M
NT-150	PT-150	1 Meg.	200M
NT-121	PT-121	1 Meg.	300M
NT-151	PT-151	2 Megs.	200M
NT-152	PT-152	2 Megs.	400M
NT-122	PT-122	2 Megs.	600M
NT-153	PT-153	2 Megs.	1 Meg.
NT-154	PT-154	2 Megs.	1 Meg.

ATTACHABLE SWITCH COVERS

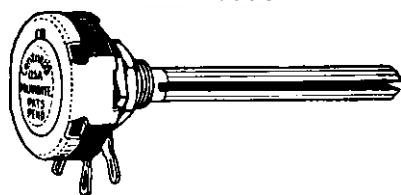
FOR STANDARD AND WIRE WOUND RADIOHMS		
Cat. No.	Circuit	Price
K-10	Single Pole Single Throw	\$.50
K-11	Single Pole Double Throw	.60
K-12	Double Pole Single Throw	.60
K-15	Four Point	.60
K-16	Single Pole Double Throw (Operates at clockwise position)	.60
K-17	Single Pole Single Throw (With Dummy Lug)	.60

FOR MIDGET RADIOHMS		
Cat. No.	Circuit	Price
K-155	Single Pole Single Throw	\$.50
K-156	Single Pole Double Throw	.60
K-157	Double Pole Single Throw	.60
K-158	Four Point	.60
K-169	Single Pole Single Throw (With Dummy Lug)	.60

Centralab

Quality Controls • Resistors • Selector Switches

UNIVERSAL SPLIT-KNURL REPLACEMENT CONTROLS



Many 1938-39 and 40 radio sets use split-knurl shafts and the knobs will not fit the usual flatted shaft. These new Centralab replacements will fit simply by cutting the shaft to proper length. Shaft is brass, 3³/₈" long from mounting surface, and easily cut. For switch type, add Midget Radiohm switch covers K-155, K-156, K-157, or K-158.

Cat. No.	Ohms	Type	Price
NK-139	250M	Plain	\$1.00
NK-140	500M	Plain	1.00
NK-141	1 Meg.	Plain	1.00
NK-142	2 Meg.	Plain	1.00
NK-143	500M	Tapped	1.50
NK-144	1 Meg.	Tapped	1.50

EXTENSION SHAFTS



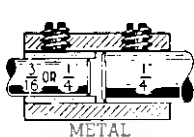
REGULAR Pat. No 2157662 AUTO TYPE

Use with replacement controls or selector switches where long shafts are required. The auto type extension replaces any slotted or tongue type original auto control shaft.

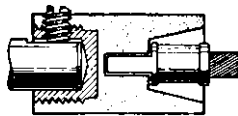
- K-181—Extension shaft (4" x 1/4" dia. x 1/32" flat)...\$.30
- K-182—Extension shaft (4" x 1/4" dia. x 3/32" flat)... .30
- K-183—Extension shaft (4" x 3/16" dia. x 1/64" flat)30
- K-159—Auto type (3" x 1/4" dia.; 3/32" tongue and slot)50

SHAFT COUPLERS

K-161: for coupling two 1/4" shafts or one 1/4" and one 3/16" shaft. Steel, 3/4" long, 7/16" diameter. Price \$.25



METAL

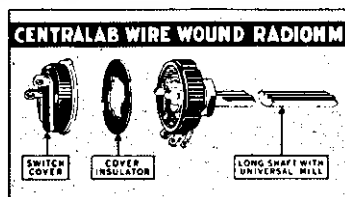


INSULATED

K-184: Bakelite insulating auto control coupling. 1/4" diameter hole for control shaft; opposite end cone shaped and slotted to take most remote cable coupling. Price \$.25

K-168: Same as K-184 but with square hole for Motorola receivers. Price \$.25

WIRE WOUND RADIOHMS



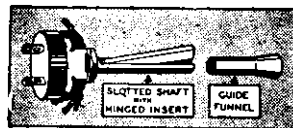
Dimensions identical to Standard Radiohm. Only plain controls are listed — converted to switch type with Standard Radiohm switch covers.

Insulated soft aluminum shaft extends 3³/₈" from case, milled full length for push-on or set screw knob. Rating 3 watts. All controls have linear relation of resistance to rotation.

Price—All Types \$1.00 (Less Switch)

Cat. No.	Ohms	Cat. No.	Ohms
V-100	2	V-121	100
V-102	4	V-123	200
V-104	6	V-125	300
V-106	8	V-126	400
V-108	10	V-127	500
V-109	15	V-128	750
V-110	20	VF-129	1000
V-111	25	VF-131	2000
V-112	30	VF-133	3000
V-114	40	VF-134	4000
V-116	50	VF-135	5000
V-117	60	VF-136	7500
V-118	75	VF-137	10000

UNIVERSAL AUTO REPLACEMENT



Pat. No. 2157662

Replaces controls having slotted or tongue type shafts. 1/4" shaft 3" long slotted with hinged insert, complete with guide funnel. Plain units furnished with slip

clutch. Separate switches cannot be attached to plain controls. Order plain or switch type as required. Tone compensation tap on all controls can be omitted if desired. Switches D.P.S.T. type.

LESS SWITCH.....\$1.50 WITH SWITCH.....\$2.00

NA-123	PA-123	Tapped Audio Grid	250000	10
NA-105	PA-105	Tapped Audio Grid	500000	10
NA-124	PA-124	Tapped Audio Grid	1 Meg.	10
NA-125	PA-125	Tapped Audio Grid	2 Megs.	10

TWIN REPLACEMENT RADIOHMS

Two resistance elements completely insulated from each other and from the shaft and bushing. Sections are Standard Radiohm bases, 1 3/8" diameter, both rotated by a single aluminum shaft 3" long.

Cat. No.	Resistance		Price
	Front Base	Back Base	
74-601	10,000	25,000	\$2.50
74-602	10,000	50,000	2.50
4010805	100,000	100,000	2.50
4010807	250,000	250,000	2.50
4010804	500,000	500,000	2.50

PHONOHM

A compact portable headphone volume control in "L" pad or potentiometer type enclosed in black molded bakelite case furnished with arrow knob. All types furnished less cords.

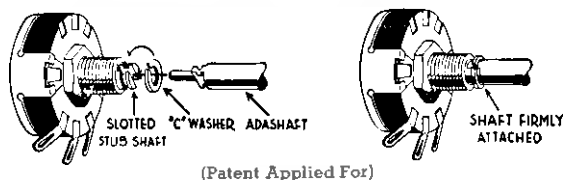
Cat. No.	Type	Resis. Ohms	Price
MP-149	Potentiometer	5M	\$1.50
MP-150	Potentiometer	10M	1.50
MP-151	Potentiometer	100M	1.50
ML-152	"L" Pad	5M	2.00
ML-153	"L" Pad	10M	2.00
ML-154	"L" Pad	100M	2.00

OVER 350 SPECIAL REPLACEMENT CONTROLS ARE LISTED IN THE CENTRALAB VOLUME CONTROL GUIDE

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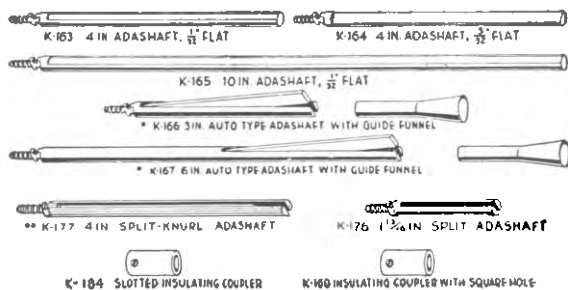
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● ADASHAFT MIDGET RADIOHM



(Patent Applied For)

By merely adding any one of the shafts illustrated below the simple Adashaft construction permits a maximum of replacement possibilities with a minimum of stock. One K-163 shaft is included with each control listed in this group and additional parts are available upon request. The illustration above indicates the method of attaching the shaft to the control and by firmly clinching the "C" washer, the shaft is held in place without wobble or play.



Adashaft Midget Radiohms are supplied without switch. To convert any control to switch type, use Midget switch covers listed on page L-5. Available resistance values and tapers are listed below.

Price, Less Tap, \$1.00

Catalog Number	Usual Circuit Location	Resistance Ohms	Curve
NF-125	Antenna, C-Bias	10M	3
NF-146	Antenna, C-Bias	25M	4
N-127	Tone Control	50M	6
N-128	Audio Grid or Tone	250M	6
N-129	Audio Grid or Tone	500M	6
N-130	Audio Grid or Tone	1 Meg.	6
N-131	Audio Grid or Tone	2 Meg.	6
N-145	Audio Grid or Tone	3 Meg.	6

● TAPPED ADASHAFT MIDGET RADIOHMS

Price, With Tap, \$1.50

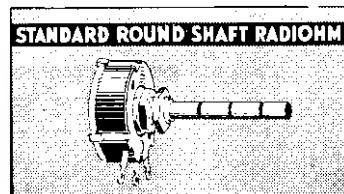
Catalog Number	Usual Circuit Location	Resistance Ohms	Curve
NT-132	Tapped Audio Grid	250M	10
NT-133	Tapped Audio Grid	500M	10
NT-134	Tapped Audio Grid	2 Meg.	10
NT-135	Tapped Audio Grid	2 Meg.	10

● ADASHAFT FOR CONTROLS LISTED ABOVE

Catalog Number	Description	Price Each
K-163	4" Adashaft; 1/16" flat full length	.25
K-164	4" Adashaft; 1/8" flat full length	.25
K-165	10" Adashaft; 1/16" flat full length	.25
K-167	6" Auto Type Adashaft with Guide Funnel	.35
K-168	3" Auto Type Adashaft with Guide Funnel	.35
K-177	4" Split Knurl Adashaft	.25
K-176	1 1/2" Split Adashaft	.25

● STANDARD ROUND SHAFT RADIOHM

Shaft has no milled flat, so that a pointer type knob can be located in any desired relation to the slider. Useful for many commercial applications. This unit is identical to the Standard Radiohm except that the shaft is 1/4" round steel cadmium plated length, 2 1/4" from the face of the unit, with grooves every half inch for breakoff purposes. Below are listed the available types less switch. These may be converted into switch type by using any of the standard switches listed on this and previous page.

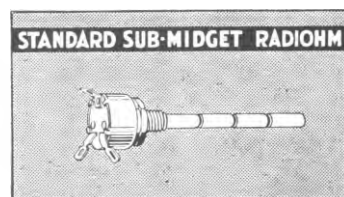


Price, All Types (Less Switch), \$1.00

Catalog Number	Resistance	Curve
AS-139	10M	1
AS-140	25M	1
AS-141	50M	1
AS-142	100M	1
AS-143	100M	6
AS-144	250M	1
AS-145	250M	6
AS-146	500M	1
AS-147	500M	6
AS-148	1 Meg.	6
AS-149	5 Megs.	6
AS-150	10 Megs.	6

● STANDARD SUB-MIDGET RADIOHM

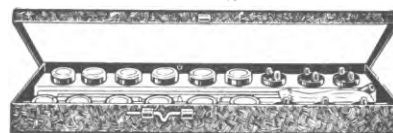
A small diameter control with many of the characteristics of larger units, the standard sub-midget radiohm is ideal for use in small equipment and spaces where other control will not fit. It is especially adaptable in the construction of hearing aids and to the requirements of experimenters, home set builders or "hams" for use in portable equipment. Case dimensions are 3/8" depth by 3/4" diameter. Round steel shaft extends 2 3/8" beyond face of unit, and is grooved every half inch from end of bushing. Features the wail type resistor which hugs the inner circumference of a metal case. **The Standard Submidget Radiohm is not available with switch.** Below are listed the available types.



Price, All Types, \$1.00

Catalog Number	Resistance	Curve
NS-10	1M	1
NS-11	5M	1
NS-12	10M	1
NS-13	25M	1
NS-14	50M	1
NS-15	100M	6
NS-16	250M	6
NS-19	500M	1
NS-17	500M	6
NS-18	1 Meg.	6

● ADASHAFT DEALER KIT



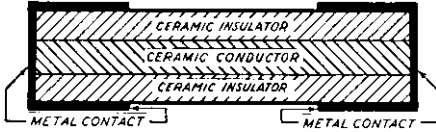
Kit consists of twelve controls listed on this and previous page, an assortment of twelve shafts, five K-155 and one K-157 switches, and two couplers. An attractive and sturdy metal box finished in Centralab blue offers a handy method of carrying and maintaining a complete supply of adashaft controls and accessories.

Catalog No. 418 — Price \$17.60

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Quality Controls • Resistors • Selector Switches

● CENTRALLAB FIXED RESISTORS



Pat. No. 1,978,163; 2,083,339; 2,084,840; 2,189,667

This magnified cross section illustrates important and exclusive features of Centralab resistor design. These are:

1. Center core of resistance material is surrounded by a dense shock-proof ceramic providing strength and protection against humidity.

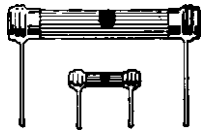
2. Core and jacket are fired together at 2500 degrees F. into a single solid unit, hard and durable as stone.

3. Pure copper covers the resistor ends for wire lead contact. Contact to the resistance material is at the extreme ends only, providing uniform resistance and load distribution over ENTIRE length. End contacts do not short circuit part of resistance as in other types.

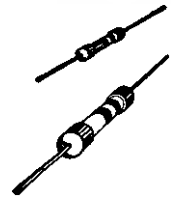
4. Because resistance is small in diameter and uniformly distributed for entire length, Centralab's specific resistance per unit length is low. The result is low noise level and constant value over a wide range of frequency and voltage. In ordering, specify both type and desired resistance. All resistors have flexible wire leads 1 1/2" long, and are R.M.A. color coded. Type 316 and 314 individually labeled and packed in cartons of ten. Type 710 and 714 packed five of one value to a card, ten cards in a package.

● RADIAL LEAD RESISTORS

Type 310—Size 1/8" x 3/8", rating .5 watt\$0.12
 Type 314—Size 1/4" x 1" rating 1 watt\$0.18
 Type 316—Size 1/4" x 1 1/4", rating 2 watts\$0.20



● AXIAL LEAD RESISTORS



Type 710 — Size 1/8" x 3/8", rating .5 watt\$0.17
 Type 714—Size 1/4" x 1", rating 1 watt, \$0.20

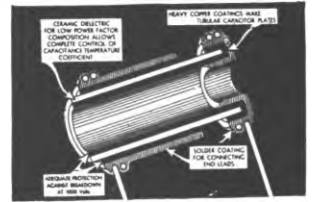
STOCK RESISTANCE VALUES

10	750	2,500	12,000	50,000	300,000
25	800	3,000	13,000	55,000	400,000
50	900	3,500	14,000	60,000	500,000
75	1,000	4,000	15,000	70,000	750,000
100	1,100	4,500	17,000	75,000	1 Meg.
200	1,200	5,000	20,000	100,000	1.5 Meg.
300	1,300	7,500	25,000	125,000	2 Meg.
400	1,400	8,000	30,000	150,000	3 Meg.
500	1,500	9,000	40,000	200,000	4 Meg.
600	2,000	10,000	45,000	250,000	5 Meg.

Note: 10 ohm and 25 ohm values not available in types 710 and 714.

● CENTRALLAB CERAMIC CAPACITORS

Small special purpose capacitors for high frequency circuits and where temperature compensation, low power factor, or absolute permanence are important. Capacitors consist of a thin wall ceramic tube of special composition spacing two tubular condenser plates, one inside and one outside the ceramic. Remains permanent under all life and aging tests because the metal is actually electroplated on ceramic and no mechanical movement or warping that might change the distance between plates is possible.



General specification include voltage rating 1000 volts D.C. with leakage resistance of more than 10,000 megohms. Power factor less than .1%. No capacity change after 100 hours at 90% humidity, the power factor continuing to measuring less than .1%. Standard capacitor tolerance is $\pm 2\frac{1}{2}\%$ (minimum tolerance below .000025 mfd is ± 5 mfd). Negative compensating capacitors have a uniform capacity change with temperature of .00074 mmi/mmi/c° and are particularly useful in balancing the positive temperature drift of most circuit components. For details write for special Centralab Bulletin. Below are listed available types and capacities.

● ZERO COEFFICIENT CAPACITORS

Used where no change with temperature is desired.
 Type 813Z—Size 1/8" x 3/8" long. Standard capacities .000005, .00001, .000025, .00004, and .00005 mfd. Price \$0.60
 Type 810Z—Size 1/8" x 3/8" long. Standard capacities .000075, and .0001 mfd. Price .60
 Type 814Z—Size 1/4" x 1" long. Standard capacities .000125, .00015, .000175, and .002 mfd. Price .80
 Type 816Z—Size 1/4" x 1 1/4" long. Standard capacities .00025, .0003, and .00035 mfd. Price 1.00

● NEGATIVE TEMPERATURE COMPENSATING CAPACITORS

Type 813N—Size 1/8" x 3/8" long. Standard capacities .00001, .00002, .000025, .00004, .00005, and .0001 mfd. Price \$0.60
 Type 810N—Size 1/8" x 3/8" long. Standard capacities .00015, .0002, and .00025 mfd. Price .60
 Type 814N—Size 1/4" x 1" long. Standard capacities .0003, .00035, .0004, and .00045 mfd. Price .80
 Type 816N—Size 1/4" x 1 1/4" long. Standard capacities .0005, .0006, .0007, and .0008 mfd. Price 1.00

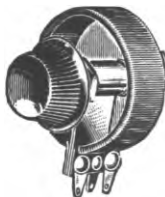
● AUTO RADIO NOISE SUPPRESSORS

The standard resistance is 10,000 ohms with the exception that the Ford special is furnished with a resistance of 20,000 ohms. Resistances of 5,000, 20,000 or 30,000 ohms are available at no extra charge in all types.

Part No. 413—Screw on plug type. Will fit most popular carsPrice \$0.30
 Part No. 304—Snap on plug type. Snaps on plug at any anglePrice .30
 Part No. 409—Distributor type. Placed in series with center distributor cablePrice .30
 Part No. 405—Bracket type. For older types of carsPrice .30
 Part No. 338—Cable type. To be inserted in cable near spark plugPrice .30

Centralab Power Rheostats

Work at High Temperatures Without Damage



25 Watt Rheostat

Ideal for many commercial applications, such as small motor speed controls, charging rate adjusters, or soldering iron temperature regulators. Give maximum dissipation for size because of complete air circulation. All metal frame and core, insulated with treated asbestos. Practically indestructible. Made in three sizes, all two inches in diameter. Bushing 3/8" x 1/2" long. Shaft 1/4" x 1/2" long. Depth behind panel—25 watt, 3/4"; 50 watt, 1 1/4"; 75 watt, 1 3/4". All sizes furnished with Bakelite knob and panel insulating washers.

25 WATT RHEOSTATS

Part No.	Resistance, Ohms	Price
48-002	2	\$2.00
48-006	6	2.00
48-010	10	2.00
48-015	15	2.00
48-026	25	2.00
48-042	40	2.00
48-050	50	2.00
48-100	100	2.00
48-150	150	2.00
48-200	200	2.00
48-250	250	2.00
48-300	300	2.00
48-400	400	2.00
48-500	500	2.00
48-810	1000	2.00
48-815	1500	2.00
48-850	5000	2.00

50 WATT RHEOSTATS

Part No.	Resistance, Ohms	Price
48-003	2	\$2.50
48-025	25	2.50
48-060	60	2.50
48-151	150	2.50
48-201	200	2.50
40-301	300	2.50
48-501	500	2.50
48-811	1000	2.50
48-835	2500	2.50
48-851	5000	2.50

75 WATT RHEOSTATS

47-277	50	\$3.00
47-278	150	3.00
47-279	300	3.00
47-286	500	3.00
47-281	1000	3.00

Centralab

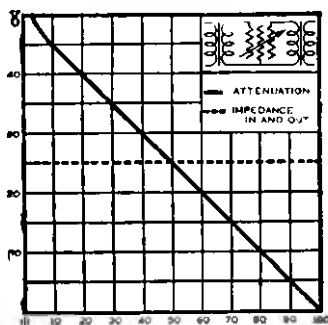
Quality Controls • Resistors • Selector Switches

SOUND PROJECTION CONTROLS FOR EVERY APPLICATION



● CENTRALAB SERIES II

Controls are the finest for input circuits in broadcast stations, public address systems, and recording apparatus of new or old design. Will prove faultless in the most critical service.



The curve chart shows the change in impedance and attenuation plotted against clockwise rotation for a "T" pad attenuator. The impedance characteristic (dotted line) is substantially the same at any setting. The attenuation curve (solid line) varies from infinity at zero rotation to zero Db. at full rotation. No insertion loss.

Electrostatic and electromagnetic shielding provided by a black finished steel case. Bakelite screw type terminal strip on back of case. All resistance elements insulated from shaft and bushing. Single hole mounting. Mounting bushing 3/4" long with 2 locknuts and lockwashers. Case diameter 2 3/4". Depth back of panel "T" Pad — 2 3/8"; Gain Control — 1 3/8". Maximum load dissipation 1 watt.

For detailed information, write for technical booklet.

	Line Impedance	Resistance	Resistance Each Side of Center	Part Number	Price*
"T" Pad Attenuator	500 Ohms	Constant Impedance to Both Input and Output		7-010-852	\$10.00
	200 Ohms			7-010-851	10.00
	50 Ohms			7-010-850	10.00
"T" Pad Fader	500 Ohms	Two Constant Impedance Legs on Both Sides		7-210-852	\$15.00
	200 Ohms			7-210-851	15.00
	50 Ohms			7-210-850	15.00
"L" Pad Attenuator	500 Ohms	Constant Impedance to One Side Only		4-010-852	\$ 5.00
	200 Ohms			4-010-851	5.00
	50 Ohms			4-010-850	5.00
Gain Control	Attenuation 50 Decibels for Each Control	250MOhms	—	1-010-852	\$ 4.00
		500MOhms	—	1-010-851	4.00
		1 Megohm	—	1-010-850	4.00
Straight Fader	For Crystal or High Impedance Pickups	500,000	—	1-210-852	\$ 5.00
		100,000	—	1-210-851	5.00
		50,000	—	1-210-850	5.00

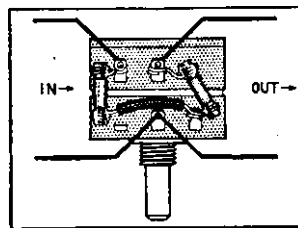
● KNOBS AND DIALS

All controls listed above are furnished with knobs and dials. When additional knobs and dials are required, order from list below:

K-112 Dial "T" and "L" Pad, Gain control.....	\$0.75
K-113 Dial "T" Pad Fader.....	.75
K-114 Knob All Series II Controls.....	.75

● ECONOMY P/A CONTROLS

These controls are intermediate to the Series II line and the older Series I types. As their name implies, they are economy controls, designed primarily for inexpensive sound equipment, where original cost is a limiting factor. They are designed for all types of fading and mixing systems.



All units have 3/8" diam. brass bushing, 3/8" long, 1/4" aluminum shaft 2 1/4" long — no mill. Two mounting nuts and lock-washers supplied on bushing. Small diameter bakelite case same dimensions as Standard Radiohm. Non-rubbing contact for smooth, quiet operation. Limited to input applications. Maximum

power rating for all units 1 watt.

Sketch illustrates connections to "Delta T" Pad. Resistance listed for these units is line impedance.

Catalog No.	Description	Resistance Ohms	Price Each
M-140	Gain Control	250M	\$1.75
M-141	Gain Control	500M	1.75
M-142	Gain Control	1 Meg.	1.75
M-143	Gain Control	2 Meg.	1.75
MT-144	Straight Fader	500M	2.00
MT-145	Straight Fader	1 Meg.	2.00
MX-146	"Delta-T" Pad	50	3.50
MX-147	"Delta-T" Pad	200	3.50
MX-148	"Delta-T" Pad	500	3.50

● KNOBS AND DIALS

For Economy P/A Controls:	
K-120 Bar Knob, all controls.....	\$0.15
K-117 Dial, Gain Controls and Attenuators.....	.15
K-160 Dial, Faders.....	.15

● CENTRALAB SERIES I

Constant impedance attenuators that are wire wound in the 10 watt or 50 watt "L" Pads, wire for the series and carbon for the shunt resistors in the 1 watt "T" Pad and C.I. Faders, also 4 watt "L" Pads. All carbon resistance in the 1 watt "L" Pad. Bakelite housing 3 1/2" x 1 3/4" deep single or 3 hole mounting for 10 watt "L" Pad, 1 watt "T" Pad, and C.I. Fader. 4 watt "L" Pad bakelite housing 2 1/4" x 7/8" deep. All furnished with insulating washers for bushings. One watt "L" Pad mounted in bakelite case 1 3/8" x 1-1/16" deep. Priced without knob or dial.

Impedance Matching Resistance	1 Watt "L" Pad	4 Watt "L" Pad	10 Watt "L" Pad	50 Watt "L" Pad	1 Watt "T" Pad	1 Watt C.I. Fader
	\$3.00 Part No.	\$4.00 Part No.	\$5.00 Part No.	\$5.00 Part No.	\$7.00 Part No.	\$8.00 Part No.
10,000 Ohms	74-544	96-003	—	—	—	—
5,000 "	74-543	96-002	94-006	—	93-008	83-006
1,500 "	—	—	—	—	93-001	83-002
500 "	—	96-007	94-005	—	93-002	83-003
200 "	—	96-006	94-004	—	93-003	83-004
100 "	—	—	94-003	—	93-004	—
50 "	—	96-005	94-002	47-209	93-005	83-005
15 "	—	96-001	94-001	47-208	93-006	—
8 "	—	—	94-007	47-900	—	—

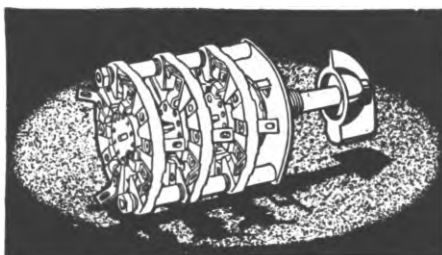
OVER 350 SPECIAL REPLACEMENT CONTROLS ARE LISTED IN THE CENTRALAB VOLUME CONTROL GUIDE

Centralab

Quality Controls • Resistors • Selector Switches

ASSEMBLED SELECTOR SWITCHES

Centralab switches employ a double jawed "biting" contact clip that maintains noiseless contact after standing for months in humidity or corrosive atmosphere as well as on original life test. Switch sections are available with Bakelite or Isolantite insulation. Bakelite is commonly used, but Isolantite is recommended for all



high frequency applications because of its low power factor.

Switches have single hole mounting on $\frac{3}{8}$ " diameter bushing. Aluminum shaft $2\frac{1}{4}$ " long from mounting surface. Adjustable stop index permits choice of from two to eleven positions. Each switch complete with bar knob.

WITH BAKELITE INSULATION

Part Number		Description			Price Each	
Shorting	Non-Shorting	Gangs	Poles	Positions		
	1400	1401	1	1	2 to 6	\$1.00
	1402	1403	1	1	2 to 11	1.15
	1404	1405	1	2	2 to 5	1.25
	1406	1407	1	3	2 to 3	1.35
	1408	1409	1	4	2	1.45
	1410	1411	2	2	2 to 6	1.60
	1412	1413	2	2	2 to 11	1.75
	1414	1415	2	4	2 to 5	2.00
	1416	1417	2	6	2 to 3	2.10
	1418	1419	2	8	2	2.25
	1420	1421	3	3	2 to 6	2.20
	1422	1423	3	3	2 to 11	2.35
	1424	1425	3	6	2 to 5	2.50
	1426	1427	4	4	2 to 6	2.75
	1428	1429	4	4	2 to 11	3.00
	1430	1431	4	8	2 to 5	3.50

WITH ISOLANTITE INSULATION

Part No.	Gangs	Poles	Positions	Price Each
2501	1	1	2 to 6	\$1.70
2503	1	1	2 to 11	1.70
2505	1	2	2 to 5	1.70
2507	1	3	2 to 3	1.70
2511	2	2	2 to 6	2.70
2513	2	2	2 to 11	2.70
2515	2	4	2 to 5	2.70
2517	2	6	2 to 3	2.70
2521	3	3	2 to 6	3.90
2523	3	3	2 to 11	3.90
2525	3	6	2 to 5	3.90

Any bakelite or Isolantite selector switch can be assembled from SWITCHKIT PARTS. See page P-3 for complete list of parts to assemble these and similar switches.

TRANSMITTER SWITCHES FOR AMATEURS

Isolantite sections with four positions, 90 degrees apart for greater spacing between contacts. Adjustable stop will limit rotation to 2 or 3 positions if required. Contact will operate in transmitters rated up to 100 watts and at potentials up to 1000 volts D.C. One pole per section in all types, $\frac{1}{2}$ " spacing between sections. $2\frac{1}{4}$ " aluminum shaft can be easily cut to length required. Attractive bar knob included with each switch.

Cat. No.	Poles	Positions	Sections	List Price
2542	1	2 to 4	1	\$1.70
2543	2	2 to 4	2	2.70
2544	3	2 to 4	3	3.90
2545	4	2 to 4	4	4.90
2546	5	2 to 4	5	6.10

Dial Plate . . . Special, numbered 1 - 4 to agree with 90 degree index on switches listed above.

Cat. No. K-162.

Price each \$0.20

UNIVERSAL FLAT SWITCH



A compact inexpensive switch for many circuit applications. May be used as single pole single throw, single pole double throw, double pole single throw, double pole double throw, three pole single throw, three pole double throw, four pole single throw, four pole double throw. Non-shorting teeth. Flat construction requires only $\frac{5}{8}$ " overall back of mounting surface. Supplied with aluminum shaft $2\frac{1}{4}$ " overall. Standard bar knob included.

Catalog No. 1450

Price \$0.75

STONE SWITCHES

Catalog No. 1460—S.P.D.T. Price \$0.50

Catalog No. 1461—Single Pole, Three Pos. .60

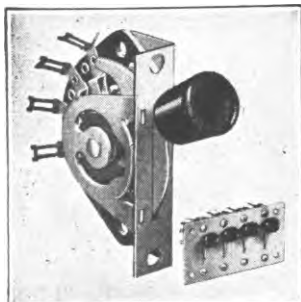
Catalog No. 1462—D.P.D.T.60

Catalog No. 1465—Like 1461 plus snap switch 1.00

Centralab

Quality Controls • Resistors • Selector Switches

LOW CAPACITY LEVER ACTION SWITCHES



Used singly or in groups, these space saving switches are particularly adapted to broadcasting, receiving, public address, test instruments and industrial use. Available in ten different combinations including positive and spring return action with either shorting or non-shortening contacts. Use the shorting type contact for circuit switching where contacting the new circuit before breaking the old circuit will avoid noise. Further uses for this type of switch can be found in any application where multiple con-

tact low capacity switches are required to operate at low voltage and current. Dimensions of single switch are $\frac{3}{8}$ " width x $1\frac{1}{8}$ " height x $1\frac{1}{2}$ " depth behind panel. Below are listed the various types, all furnished with black knob and nuts and bolts for panel mounting.

Price. All Types — \$1.00

Contacts		Description		Type of Index
Shorting	Non-Shorting	Poles	Positions	
1452	1454	2	3	Positive
1453	1455	2	3	Spring Return
1456	1457	4	2	Spring Return
1459	1458	4	2	Positive
1466	1467	2	3	Positive and Spring Return

LEVER ACTION SWITCHES WITH SNAP SWITCH

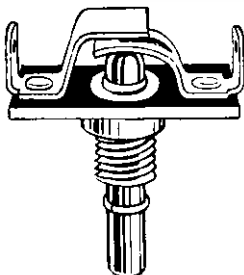
Similar in size and construction to the switches listed above, the two switches noted below differ in that the switch action consists of an underwriters approved snap switch either S.P.S.T. or D.P.S.T. Rated 1 amp. at 250 volts or 3 amp. at 125 volts. Can be mounted singly or in groups when used with mounting plates listed below.

Catalog No. 1468—S.P.S.T. Price \$0.60
 Catalog No. 1469—D.P.S.T. Price .75

MOUNTING PLATES

Part No.	No. of Switches	Mounting Holes	Price
P1755	1	Vertical	\$0.20
P1756	2	Vertical	.30
P1757	3	Vertical	.35
P1758	4	Vertical	.45
P1759	5	Vertical	.50
P1760	2	Horizontal	.30
P1761	3	Horizontal	.40
P1762	4	Horizontal	.50
P1763	5	Horizontal	.55

MOMENTARY PUSH SWITCHES



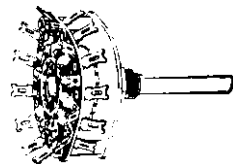
Centralab momentary open circuit switches may be used for many light duty applications such as meter insertion, record rejection or selection, test equipment, call bell, buzzer or annunciator systems, solenoid door check release, miniature lamp signals, small motor uses, and simple on-off switch. Rated 1 amp. at 110V A.C., contacts are phosphor bronze silver plated. Designed for panel mounting. Insulated $\frac{3}{8}$ " bushing, $\frac{3}{8}$ " long. Push button protrudes $\frac{3}{8}$ " from end of bushing.

Catalog No. 1470—Momentary opened Price \$0.50
 Catalog No. 1471—Momentary closed Price \$.50

Copyright by U. C. P., Inc.

23 POSITION SELECTOR SWITCH

For test instruments and laboratory use. One common terminal contact twenty-three clips mounted on one section. Double wiping low capacity contact insures long life. Contact resistance averages .002 ohms. Furnished with shorting type contact only. Non-shortening contact cannot be supplied. $\frac{1}{4}$ " aluminum shaft $2\frac{1}{4}$ " long can easily be cut to required length. $\frac{3}{8}$ " brass bushing Bar knob furnished with each switch. Switch cannot be supplied with adjustable stop.



Catalog No. 1443 Price \$2.50
 Dial Plate numbered 1, 2, 3 for above switch.
 Catalog No. K-173 Price .20

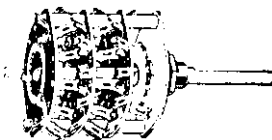
SPRING RETURN SWITCHES

Replacements for intercommunicator talk-back switches. All are two positions. Shaft returns to original position when knob is released. Rotation against spring in clockwise position. Normal position is counter-clockwise. All have long shaft that can be cut to length.

Catalog Number Description Price
 Cat. No. 1463—1 Pole 2 Position \$0.65
 Cat. No. 1464—2 Pole 2 Position .75
 Cat. No. 1451—4 Pole 2 Position 1.00

METER INSERTION SWITCH

Twelve positions continuous rotation. Inserts millimeter in any one of twelve different circuits, keeping remaining eleven circuits closed. Aluminum shaft $2\frac{1}{4}$ " long. $\frac{3}{8}$ " brass bushing. Bar knob included with each switch. Complete wiring instructions included.



Catalog No. 1442 Price \$4.50

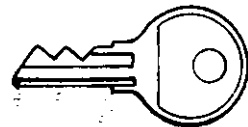
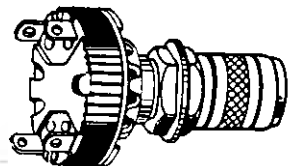
ROTARY LINE AND TONE SWITCH

A compact and sturdy rotary type switch in a molded bakelite case, underwriters approved. Available in three types listed below, all furnished with long steel shaft milled for push-on knob.

No.	Type	Price
No. 1447	SPST	\$0.50
No. 1448	DPST	.60
No. 1449	Tone Type	.60

KEY OPERATED SWITCH

Prevents unauthorized use or adjustment of equipment. Only key of proper shape will operate switch. Key furnished with each switch. Numerous uses include coin phonographs, electronic eye apparatus, power, timer or test recording equipment, electric door opener, temperature and humidity control regulators, laboratory setups, etc. Available in D.P.S.T. which can also be used as S.P.S.T. Rating of either switch 1 amp. at 250 volts A.C., 3 amp. at 125 volts A.C., or 15 amp. at 12 volts.



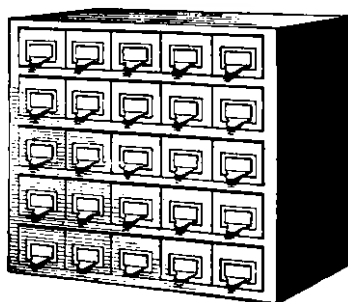
Catalog No. 1472—S.P.S.T. or D.P.S.T. Price \$1.00

Centralab

Quality Controls • Resistors • Selector Switches

THE CENTRALAB SWITCHKIT PROVIDES COUNTLESS SWITCH ASSEMBLIES

THE demand for selector switches includes so many different types that it is virtually impossible to maintain a complete stock of assembled switches. Selector switches are usually assembled with standard sections. The difficulty arises from the number of different ways that a small group of sections can be put together. To simplify stocking selector switches, Centralab has two switchkit assortments of sections, hardware, and accessories available. One of these includes bakelite sections and hardware; the other Iso-



lantite sections and hardware. The parts included in each are tabulated below.

Each switchkit assortment is packed in an attractive sturdy steel cabinet identified with a Centralab decalcomania. Drawer pulls include identification

cards to show location of parts.

Cabinet contains 25 drawers, 3" x 2 1/2" x 8" inside. Cabinet 19" wide, 17 3/4" high, 9 1/4" deep overall. Finished in neutral green lacquer. Cabinet supplied FREE with either assortment listed below. Shipped F.O.B. Milwaukee, Wisconsin.

No. 414 KIT — includes assortment of bakelite sections, index assemblies and accessories listed below. Price \$100.00.

No. 419 KIT — includes assortment of Isolantite sections, index assemblies and accessories listed below. Price \$100.00

PARTS INCLUDED IN BAKELITE SWITCHKIT

SECTIONS WITH BAKELITE INSULATION

Quantity	Catalog Number	Poles	Positions	Contact	Price Each
12	A	1	6	Shorting	\$.40
17	B	1	11	Shorting	.55
4	C	2	5	Shorting	.75
4	D	3	3	Shorting	.75
4	F	4	2	Shorting	.85
4	F*	1	5	Shorting	.60
4	G**	1	1	Shorting	.75
12	H	1	6	N. S.	.40
17	J	1	11	N. S.	.55
4	K	2	5	N. S.	.65
4	L	3	3	N. S.	.75
4	M	4	2	N. S.	.85
3	N	Use Together in			.50
3	P	Resistance Decade			.50
3	Q	Condenser Decade			.60
5	R***	2	5	Shorting	1.00
4	S***	3	3	Shorting	1.00

*Unused contacts shorted out on one side of common.

**All unused contacts shorted out.

***Isolantite Insulation.

INDEX ASSEMBLIES — COMPLETE WITH HARDWARE

Quantity	Catalog Number	Description	Price Each
20	K-121	To assemble 1 or 2 gang switches	\$.55
10	K-122	To assemble 3 or 4 gang switches	.75
5	K-123	To assemble 5 or 6 gang switches	.95

DIAL PLATES AND KNOBS

25	K-120	Bar Knob	\$.15
10	K-119	Arrow Knob	.15
10	K-115	Dial Plate: 1-5	.15
10	K-116	Dial Plate: 1-6	.15
10	K-117	Dial Plate: 1-10	.15
10	K-118	Dial Plate: 1-11	.15

PARTS INCLUDED IN ISOLANTITE SWITCHKIT

SECTIONS WITH ISOLANTITE INSULATION

Quantity	Catalog Number	Poles	Positions	Contact	Price Each
5	T	1	6	Shorting	\$1.00
10	U	1	11	Shorting	1.00
4	R	2	5	Shorting	1.00
4	S	3	3	Shorting	1.00
4	V	4	2	Shorting	1.00
4	X	1	6	N. S.	1.00
4	Y	1	11	N. S.	1.00
4	RR	2	5	N. S.	1.00
4	SS	3	3	N. S.	1.00
4	Z	4	2	N. S.	1.00
6	GG*	1	10	Shorting	1.00
15	XX**	1	4	N. S.	1.00

*All unused contacts shorted out.

**90 Degrees between positions—for transmitter switches.

INDEX ASSEMBLIES — COMPLETE WITH HARDWARE

Quantity	Catalog Number	Description	Price Each
10	K-121	For 1 or 2 Gang Selector Sw.	\$.55
10	K-170	For 1 or 2 Gang Trans. Sw.	.55
5	K-122	For 3 or 4 Gang Selector Sw.	.75
5	K-171	For 3 or 4 Gang Trans. Sw.	.75
3	K-123	For 5 or 6 Gang Selector Sw.	.95
3	K-172	For 5 or 6 Gang Trans. Sw.	.95

DIAL PLATES AND KNOBS

25	K-120	Bar Knob	\$.15
10	K-119	Bar Knob	.15
5	K-115	Dial Plate: 1-5	.15
10	K-117	Dial Plate: 1-10	.15
5	K-118	Dial Plate: 1-11	.15
12	K-162	1-4 Dial: 90 degree Index	.20

CLAROSTAT

STANDARD



CONTROLS

MIDGET SERIES M CONTROLS Composition Element

Compact—only 1 1/2" dia. by 1/2" (without switch) or 3/8" with switch. Permanent—negligible resistance change after cycling 10,000 times. Antenna and C-bias control still perfect after 28,000 cycles. CLAROSTAT Midget Controls are provided with the handy Ad-A-Switch feature. Plain metal cap readily slips off and switch member slips on in a jiffy. Choice of switches.

Series "M"	Ohms	Resist. Curve	Suggested Use of Unit
M-8	1,000	S	Std. Pot.
M-9	1,000	L	Untuned Ant.
M-10	1,000	V	C Bias Rheo.
M-11	2,000	S	Std. Pot.
M-12	2,000	L	Untuned Ant.
M-13	2,000	V	C Bias Rheo.
M-14	2,000	W	Sc. Grid & Phono.
M-16	3,000	S	Std. Pot.
M-16	3,000	U	Ant. & C-1 Tube
M-17	3,000	V	C Bias Rheo.
M-18	3,000	W	Sc. Grid & Phono.
M-19	5,000	S	Std. Pot.
M-20	5,000	U	Ant. & C-1 Tube
M-21	5,000	V	C Bias Rheo.
M-22	5,000	W	Sc. Grid & Phono.
M-23	7,500	S	Std. Pot.
M-24	7,500	U	Ant. & C-1 Tube
M-25	7,500	V	C Bias Rheo.
M-26	7,500	W	Sc. Grid & Phono.
M-27	10,000	S	Std. Pot.
M-28	10,000	N	Ant. or R.F. Coil
M-29	10,000	U	Ant. & C-1 Tube
M-30	10,000	V	C Bias Rheo.
M-31	10,000	W	Sc. Grid & Phono.
M-32	15,000	S	Std. Pot.
M-33	15,000	U	Ant. & C-1 Tube
M-34	15,000	V	C Bias Rheo.
M-35	15,000	W	Sc. Grid & Phono.
M-36	20,000	S	Std. Pot.
M-37	20,000	U	Ant. & C-1 Tube
M-38	20,000	V	C Bias Rheo.
M-39	20,000	W	Sc. Grid & Phono.
M-40	25,000	S	Std. Pot.
M-41	25,000	W	Sc. Grid & Phono.
M-42	30,000	S	Std. Pot.
M-43	40,000	S	Std. Pot.
M-44	50,000	S	Std. Pot.
M-45	50,000	W	Sc. Grid & Phono.
M-46	50,000	Z	Audio Grid & Tone
M-47	75,000	S	Std. Pot.
M-48	75,000	V	C Bias Rheo.
M-49	100,000	S	Std. Pot.
M-50	100,000	N	R.F. Shunt
M-51	100,000	Z	Audio & Tone
M-52	200,000	Z	Std. Pot.
M-53	200,000	S	Audio & Tone
M-54	200,000	V	C Bias Rheo.
M-55	250,000	S	Std. Pot.
M-56	250,000	Y	Audio Shunt
M-57	300,000	S	Std. Pot.
M-58	500,000	S	Std. Pot.
M-59	500,000	Y	Audio Shunt
M-60	500,000	Z	Audio & Tone
M-61	1,000,000	S	Std. Pot.
M-62	1,000,000	Y	Audio Shunt
M-63	1,000,000	Z	Audio & Tone
M-64	250,000	Z	Audio & Tone
M-65	1,500,000	Z	Audio & Tone
M-66	2,000,000	Z	Tone & AVC
M-67	3,000,000	Z	Tone & AVC
M-68	4,000,000	Z	Tone & AVC
M-69	5,000,000	Z	Tone & AVC
M-70	10,000	T	Ant. & C-2 Tubes
M-71	25,000	U	Ant. & C-1 Tube
M-72	25,000	V	C Bias Rheo.
M-73	75,000	Z	Audio & Tone
M-74	500,000	No. 2 Spec.	Cathode Control
M-75	500,000	V	C Bias, Ser. Plate
M-76	100,000	V	C Bias Rheo.
M-77	150,000	Z	Audio & Tone
M-78	5,000,000	V	Series Screen
M-79	750,000	Z	Audio & Tone
M-80	4,000	S	Std. Pot.
M-81	10,000	Z	Ant. Shunt

PRICE without switch	List	Net
Switch extra	\$.10	\$.30

WIRE WOUND SERIES W CONTROLS

Selected alloy wire precisely wound on thin bakelite strip. Variable spacing of turns and also use of tapered strip for desired taper.

Perfect sliding contact by means of special alloy contact shoe, together with use of exclusive winding lubricant.

Linear resistance controls rated at 3 watts. "V" and "W" tapered controls rated at 2 watts. "L", "N" and "U" tapered controls rated at 1.5 watts. Ratings apply only to maximum resistance setting.

Series "W"	Ohms	Resist. Curve	Suggested Use of Unit
W-1	50	S	Std. Pot.
W-2	100	S	Std. Pot.
W-3	200	S	Std. Pot.
W-4	300	S	Std. Pot.
W-5	400	S	Std. Pot.
W-6	500	S	Std. Pot.
W-7	750	S	Std. Pot.
W-8	1,000	S	Std. Pot.
W-9	1,000	L	Untuned Ant.
W-10	1,000	V	C Bias Rheo.
W-11	2,000	S	Std. Pot.
W-12	2,000	L	Untuned Ant.
W-13	2,000	V	C Bias Rheo.
W-14	2,000	W	Sc. Grid & Phono.
W-15	3,000	S	Std. Pot.
W-16	3,000	U	Ant. & C-1 Tube
W-17	3,000	V	C Bias Rheo.
W-18	3,000	W	Sc. Grid & Phono.
W-19	5,000	S	Std. Pot.
W-20	5,000	U	Ant. & C-1 Tube
W-21	5,000	V	C Bias Rheo.
W-22	5,000	W	Sc. Grid & Phono.
W-23	7,500	S	Std. Pot.
W-24	7,500	U	Ant. & C-1 Tube
W-25	7,500	V	C Bias Rheo.
W-26	7,500	W	Sc. Grid & Phono.
W-27	10,000	S	Std. Pot.
W-28	10,000	N	Ant. & R.F. Coil
W-29	10,000	U	Ant. & C-1 Tube
W-30	10,000	V	C Bias Rheo.
W-31	10,000	W	Sc. Grid & Phono.
W-32	15,000	S	Std. Pot.
W-33	15,000	U	Ant. & C-1 Tube
W-34	15,000	V	C Bias Rheo.
W-35	15,000	W	Sc. Grid & Phono.
W-36	20,000	S	Std. Pot.
W-37	20,000	U	Ant. & C-1 Tube
W-38	20,000	V	C Bias Rheo.
W-39	20,000	W	Sc. Grid & Phono.
W-40	25,000	S	Std. Pot.
W-41	25,000	W	Sc. Grid & Phono.
W-42	30,000	S	Std. Pot.
W-43	40,000	S	Std. Pot.
W-44	50,000	S	Std. Pot.
W-45	50,000	W	Sc. Grid & Phono.
W-47*	75,000	S	Std. Pot.
W-49*	100,000	S	Std. Pot.
W-80	4,000	S	Std. Pot.

All units except W-40 to W-49	List	Net
W-40 to W-44	\$1.00	\$0.60
W-45	1.25	.75
W-46	1.50	.90
W-47 and W-49	2.00	1.20

WIRE WOUND RHEOSTATS

No Switch Type No.	Current Carrying Cap.	With Switch Type No.
R-58-1	2.1 Amps.	R-18-1
R-58-2	1.6 "	R-18-2
R-58-3	1.2 "	R-18-3
R-58-4	.9 "	R-18-4
R-58-6	.75 "	R-18-6
R-58-10	.7 "	R-18-10
R-58-15	.6 "	R-18-15
R-58-20	.5 "	R-18-20
R-58-25	.4 "	R-18-25
R-58-30	.35 "	R-18-30
R-58-40	.325 "	R-18-40
R-58-50	.31 "	R-18-50
R-58-60	.275 "	R-18-60
R-58-75	.25 "	R-18-75
R-58-100	.225 "	R-18-100

R-58	List	Net
R-18	\$1.00	\$0.60
	1.50	.90

MIDGET SERIES TCP TAPPED CONTROLS

Cat. No.	Total Resistance	Tapped at
TCP-10	6,000	2,500
TCP-20	30,000	6,000
TCP-22	44,000	7,000 & 14,000
TCP-23	44,000	7,000 & 14,000
TCP-25	50,000	25,000
TCP-29	60,000	10,000
TCP-30	60,000	3,000
TCP-31	63,000	3,000
TCP-32	70,000	10,000
TCP-37	200,000	25,000
TCP-38	200,000	100,000
TCP-39	250,000	25,000
TCP-40	250,000	50,000
TCP-41	250,000	100,000
TCP-42	250,000	125,000
TCP-43	250,000	50,000
TCP-50	250,000	150,000
TCP-51	300,000	150,000
TCP-60	350,000	25,000
TCP-69	350,000	75,000
TCP-70	350,000	75,000
TCP-75	500,000	15,000
TCP-78	500,000	100,000
TCP-79	500,000	5,000
TCP-80	500,000	100,000
TCP-81	500,000	25,000
TCP-88	500,000	50,000
TCP-90	500,000	250,000
TCP-91	500,000	100,000 & 170,000
TCP-92	500,000	100,000 & 300,000
TCP-93	725,000	350,000
TCP-95	1,500,000	250,000 & 500,000
TCP-98	1,000,000	250,000
TCP-99	1,000,000	50,000
TCP-100	1,000,000	20,000
TCP-101	1,000,000	50,000
TCP-102	1,000,000	100,000 & 500,000
TCP-109	1,000,000	225,000
TCP-110	1,000,000	170,000
TCP-111	1,000,000	200,000
TCP-112	1,000,000	500,000
TCP-113	2,000,000	25,000
TCP-114	2,000,000	100,000
TCP-115	2,000,000	500,000
TCP-116	2,000,000	1,000,000
TCP-117	2,000,000	40,000
TCP-118	2,000,000	20,000
TCP-119	2,000,000	200,000
TCP-120	2,000,000	400,000
TCP-121	2,000,000	250,000 & 500,000
TCP-122	3,000,000	1,000,000
TCP-123	2,500,000	250,000 & 500,000
TCP-124	2,000,000	5,000
TCP-125	1,500,000	350,000
TCP-126	2,000,000	200,000 & 400,000
TCP-127	2,000,000	5,000 & 500,000

LIST PRICE \$1.50 — NET, Each \$0.90

VARIABLE CENTER TAP SERIES "MH" POTENTIOMETERS

The Series "MH" Potentiometers are 1 1/2" in diameter and project only 3/8" back of the panel. They are available in resistance values up to 1,000 ohms, and are rated at 1 watt.

Catalog No.	Resistance Value	Catalog No.	Resistance Value
MH-2	2 Ohms	MH-50	50 Ohms
MH-4	4 "	MH-100	100 "
MH-6	6 "	MH-200	200 "
MH-8	8 "	MH-400	400 "
MH-10	10 "	MH-600	600 "
MH-20	20 "	MH-1000	1000 "
MH-30	30 "		Packed 10 to a box.

LIST PRICE \$0.50—NET PRICE, Ea. \$0.30

CLAROSTAT

STANDARD



CONTROLS

CLAROSTAT Series "KS" CONTROLS

For replacing the 1939 and early 1940 volume and tone controls whose shafts are of the new knurl and slot construction. The series KS controls are equipped with a long brass serrated shaft which can be easily cut to the required length; the original knobs can thus be used instead of having to hunt for new knobs. The serrations are accurately spaced, so no difficulty will be experienced in replacement. Series "KS" is of the same fine careful workmanship as the Series "M" midget control.

Available in all resistance values. However, we are only listing six values which are sufficient to cover the immediate needs for the present replacement field. The usual Ad-A-Switch construction is incorporated.

Cat. No.	Resistance	List Price	Net Price
KS-10	250,000	\$1.00	\$.60
KS-20	500,000	1.00	.60
KS-30	1,000,000	1.00	.60
KS-40	2,000,000	1.00	.60
KS-50	500,000 tapped @ 50,000	1.50	.90
KS-60	1,000,000 tapped @ 250,000	1.50	.90



AUTO CONTROLS

The "AC" series controls are equipped with a special slotted shaft of sufficient length and enclosed in a sleeve that will cut easily and hold the center milled shaft in shape. This also applies to the "TAC" series controls, which have tapped resistance units.

The "FAC" series automobile controls have a slotted shaft inside the bushing with a 1/8" protruding piece. This type shaft is used in many receivers where the auto lock switch is used in the control head, and used also in the chassis with the cable having a double milled fitting. This is also used on our series "FTC" tapped control.

Cat. No.	Resistance	List Price	Net Price
AC-7	100,000-Z	\$1.50	\$.90
AC-8	200,000-S	1.50	.90
AC-10	250,000-Z	1.50	.90
AC-11	350,000-Z	1.50	.90
AC-20	500,000-Z	1.50	.90
AC-30	1,000,000-Z	1.50	.90
AC-32	2,000,000-Z	1.50	.90
TAC-6	200,000 Tapped 25,000	1.50	.90
TAC-7	500,000 Tapped 50,000	1.50	.90
TAC-8	350,000 Tapped 75,000	1.50	.90
TAC-9	500,000 Tapped 50,000	1.50	.90
TAC-10	2,000,000 Tapped 1,000,000	1.50	.90
TAC-11	2,000,000 Tapped 250,000	1.50	.90
TAC-12	2,000,000 Tapped 50,000	1.50	.90
TAC-13	1,000,000 Tapped 250,000	1.50	.90
TAC-14	250,000 Tapped 50,000	1.50	.90

Cat. No.	Resistance	List Price	Net Price
FAC-8	200,000-S	\$1.50	\$.90
FAC-10	250,000-Z	1.50	.90
FAC-11	350,000-Z	1.50	.90
FAC-20	500,000-Z	1.50	.90
FAC-30	1,000,000-Z	1.50	.90
FTC-8	350,000 Tapped 75,000	1.50	.90
FTC-10	2,000,000 Tapped 1,000,000	1.50	.90

The "MA" series auto control is equipped with a sufficiently long shaft milled on both sides, leaving approximately 3/8" flat throughout the entire length of the shaft. Around the shaft is a sleeve to hold the fitting in the end of the cable. This is also used on our "TMA" tapped control.

Cat. No.	Resistance	List Price	Net Price
MA-8	200,000-S	\$1.50	\$.90
MA-10	250,000-Z	1.50	.90
MA-11	350,000-Z	1.50	.90
MA-20	500,000-Z	1.50	.90
MA-30	1,000,000-Z	1.50	.90
TMA-8	350,000 Tapped 75,000	1.50	.90
TMA-10	2,000,000 Tapped 1,000,000	1.50	.90

All controls provided with Ad-A-Switch feature.

DUAL CONTROLS Series DC

Cat. No.	Panel Unit	Rear Unit	Type of Resist.
DC-1	2,000-TL	5,000-TL	W.W. & W.W.
DC-2	10,000-U	5,000-S	W.W. & W.W.
DC-3	10,000-U	10,000-S	W.W. & W.W.
DC-4	10,000-U	50,000-S	CARBON
DC-5	50,000-S	50,000-S	CARBON
DC-6	100,000-Z	100,000-Z	CARBON
DC-7	100,000-Z	250,000-Z	CARBON
DC-8	250,000-Z	250,000-Z	CARBON
DC-9	250,000-Z	500,000-Z	CARBON
DC-10	500,000-Z	500,000-Z	CARBON
DC-11	1 MEG-Z	1 MEG-Z	CARBON
DC-12	3 MEG-Z	3 MEG-Z	CARBON
DC-13	10,000-U	10,000-U	CARBON
DC-14	1 MEG-Z	3 MEG-Z	CARBON
DC-15	1 MEG	3 MEG Tap 300-M	CARBON
DC-16	1 MEG	3 MEG Tap 1 MEG	CARBON
DC-17	500,000-Z	2,500-S	CARBON
DC-18	2 MEG-S	2,500-S	CARBON
DC-19	25,000-U	25,000-V	CARBON
DC-20	7,500-S	10,000-U	W.W. & W.W.
DC-21	1 MEG-S	3 MEG-TL	CARBON
DC-22	10,000-S	5,000-S	W.W. & W.W.
DC-23	10,000-S	50,000-S	W.W. & W.W.
DC-24	5,000-U	5,000-S	CARBON
DC-25	550-S	10,000-N	W.W. & W.W.
DC-26	10,000-U	10,000-V	W.W. & W.W.
DC-27	3,000-S	10,000-U	CARBON
DC-28	10,000-U	10,000-S	CARBON
DC-29	250,000-S	250,000-S	CARBON
DC-30	10,000-U	10,000-V	CARBON
DC-31	500,000-S	2,500-S	CARBON
DC-32	500,000-Z	1,000-S	CARBON

All controls provided with Ad-A-Switch feature.

LIST PRICE \$2.50 — NET PRICE, Each \$1.50

SEPARATE SWITCHES FOR SERIES "M" & "W" CONTROLS

This original Ad-A-Switch feature, makes it easy to convert any of CLAROSTAT SERIES "M" & "W" controls to a switch type control.

TYPES AVAILABLE:		List Price	Net Price
SERIES "U", "M"	Single Pole Single Throw	\$0.50	\$0.30
SERIES U-1, M-1	(3-Way) No-"Off"-Position, Single Pole Double Throw	.50	.30
SERIES U-2, M-2	Double Pole Single Throw	.50	.30
SERIES U-3, M-3	Three Wire (to control A, B and C voltage)	.50	.30
SERIES U-4, M-4	Four Wire (to control A, B and C voltage)	.50	.30
SERIES M (Rev.)	S.P.S.T. Switch (closes at full clockwise rotation)	.60	.36
SERIES M (DL)	S.P.S.T. Switch with Dummy Lug	.60	.36

P-A EQUIPMENT CONTROLS

Series CIB—10 Watts

The SERIES CIB, a constant impedance output attenuator, is a compact, inexpensive unit that will dissipate 10 watts at any position.

Recommended as an individual loud-speaker control without distortion.

Linear attenuation in 3 db steps up to 30 db and then final step to infinity. Insertion loss is zero.

Unit measures 2" in diameter and 2 3/4" long.

STOCK IMPEDANCES: 8, 15, 50, 200, 250 and 500 ohms.

Unit not equipped for switch, furnished with dial plate and knob.

MOUNTING: 1 hole mounting. 3/8" bushing, 1" shaft.

DEALER'S NET PRICE: \$6.50

Series CIA—25 Watts

The SERIES CIA Control was developed to meet the need for a constant impedance attenuator capable of handling considerable power with low insertion loss.

Linear up to 45 decibels, in steps of 3 decibels, with an end position of infinite attenuation.

Any Series CIA unit will safely dissipate 25 watts of power continuously, regardless of its setting.

The overall dimensions are: Length: 4 1/4", Diameter: 3 1/4".

DEALER'S NET PRICE: SERIES CIA Attenuator (in any one of the standard ohmages—8, 15, 50, 200, 250 and 500 ohms) less switch, \$15.00
Same as above, but with power switch included \$16.00

FADER CONTROLS

Type No.	Resistance Left Section	Resistance Right Section	Total Resistance
F-37-100 M	50,000 Ohms	50,000 Ohms	100,000 Ohms
F-37-500 M	250,000	250,000	500,000
F-37-1 Meg.	500,000	500,000	1,000,000
F-37-2 Meg.	1,000,000	1,000,000	2,000,000
CF-37-550 M	50,000	500,000	550,000

LIST PRICE—Each—\$2.00 — NET—\$1.20

GAIN CONTROLS

Type No.	Resistance
G-50 M	50,000 ohms
G-250 M	250,000 ohms
G-500 M	500,000 ohms
G-1 Meg.	1,000,000 ohms
G-2 Meg.	2,000,000 ohms

LIST PRICE—Each—\$1.75 — NET—\$1.05

CLAROSTAT

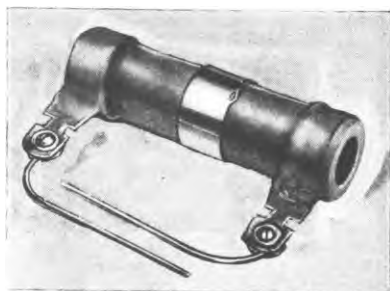
POWER



RESISTORS

WIRE-WOUND FIXED POWER RESISTORS

Windings Protected by the CLAROSTAT Green Cement Coating



TYPE 10-C 10-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
1	200	2,000	9,000
2	250	2,250	10,000
3	300	2,500	11,000
5	350	3,000	12,000
7.5	400	3,500	12,500
10	500	4,000	14,300
15	600	4,500	15,000
20	750	5,000	20,000
25	800	6,000	25,000
50	1,000	7,000	30,000
75	1,250	7,500	35,000
100	1,450	8,000	40,000
150	1,500	8,500	50,000

Packed 10 to a box.

List Price.....\$0.40 Net Price.....\$0.24

TYPE 20-C 20-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
1	500	2,500	11,000
5	750	2,750	12,000
10	800	3,000	12,500
25	850	3,500	15,000
50	1,000	4,000	20,000
75	1,200	4,500	25,000
100	1,250	5,000	30,000
150	1,500	6,000	35,000
200	1,750	7,000	40,000
250	1,850	7,500	50,000
300	2,000	8,000	60,000
350	2,250	9,000	70,000
400	2,400	10,000	80,000
			100,000

Packed 5 to a box.

List Price.....\$0.65 Net Price.....\$0.39
 Price—1 ohm to 15M ohms...\$0.65 \$0.39
 Price—20M ohms to 50M ohms .75 .45
 Price—60M ohms to 100M ohms 1.00 .60

TYPE 25-C 25-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
1	400	6,000	50,000
3	500	7,500	60,000
5	750	8,000	70,000
10	800	9,000	80,000
15	1,000	10,000	90,000
25	1,250	12,000	100,000
50	1,500	15,000	
75	2,250	20,000	
100	2,500	25,000	
150	3,000	30,000	
200	3,500	35,000	
250	4,000	40,000	
300	5,000	45,000	

List Price.....\$0.45 Net Price.....\$0.25
 Price—1 ohm to 5M ohms...\$0.75 \$0.45
 Price—6M ohms to 15M ohms .85 .51
 Price—20M ohms to 50M ohms 1.00 .60
 Price—60M ohms 1.15 .69
 Price—70M ohms 1.25 .75
 Price—80M ohms 1.35 .81
 Price—90M ohms 1.60 .96
 Price—100M ohms 1.75 1.05

TYPE 40-C 40-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
25	500	6,000	50,000
50	750	7,500	60,000
75	1,000	10,000	70,000
100	1,500	12,500	80,000
125	2,000	15,000	90,000
150	2,500	20,000	100,000
200	3,000	25,000	125,000
300	4,000	35,000	150,000
400	5,000	40,000	200,000

List Price.....\$0.90 Net Price.....\$0.54
 Price—15 ohms to 5M ohms...\$0.90 \$0.54
 Price—6M ohms to 25M ohms 1.00 .60
 Price—30M ohms to 100M ohms 1.20 .72
 Price—125M ohms to 150M ohms 1.40 .84
 Price—200M ohms 1.60 .96

TYPE 50-C 50-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
5	1,500	10,000	75,000
10	2,000	12,000	100,000
25	2,500	12,500	125,000
50	3,000	15,000	150,000
100	4,000	20,000	175,000
200	5,000	25,000	200,000
250	6,000	30,000	225,000
500	7,000	40,000	250,000
750	7,500	50,000	
1,000	8,000	60,000	

List Price.....\$1.10 Net Price.....\$0.66
 Price—5 ohms to 5M ohms...\$1.10 \$0.66
 Price—6M ohms to 25M ohms 1.25 .75
 Price—30M ohms to 100M ohms 1.45 .87
 Price—125M ohms 2.00 1.20
 Price—150M ohms to 175M ohms 2.25 1.35
 Price—200M ohms to 225M ohms 2.50 1.50
 Price—250M ohms 2.75 1.65

TYPE 80-C 80-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
5	750	6,000	30,000
10	1,000	7,500	40,000
25	1,500	8,000	50,000
50	2,000	10,000	60,000
100	2,500	15,000	75,000
200	3,000	20,000	100,000
250	4,000	25,000	
500	5,000		

List Price.....\$1.25 Net Price.....\$0.75
 Price—5 ohms to 5M ohms...\$1.25 \$0.75
 Price—6M ohms to 25M ohms 1.50 .90
 Price—30M ohms to 50M ohms 1.75 1.05
 Price—60M ohms to 75M ohms 2.00 1.20
 Price—100,000 ohms 2.25 1.35

TYPE 100-C 100-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
25	750	5,000	40,000
50	1,000	7,500	50,000
75	1,250	10,000	60,000
100	1,500	15,000	75,000
150	2,000	20,000	100,000
250	2,500	25,000	125,000
500	3,000	30,000	150,000
			200,000

List Price.....\$1.60 Net Price.....\$0.90
 Price—25 ohms to 3M ohms...\$1.60 \$0.90
 Price—5M ohms to 25M ohms 1.75 1.05
 Price—30M ohms to 50M ohms 2.00 1.20
 Price—60M ohms to 75M ohms 2.25 1.35
 Price—100M ohms 2.50 1.50
 Price—125M ohms 2.75 1.65
 Price—150M ohms 3.00 1.80
 Price—200M ohms 3.50 2.10

TYPE 160-C 160-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
100	3,000	15,000	60,000
200	3,500	20,000	70,000
500	4,000	25,000	80,000
1,000	4,500	30,000	100,000
1,500	5,000	35,000	125,000
2,000	7,500	40,000	150,000
2,500	10,000	50,000	

List Price.....\$2.00 Net Price.....\$1.20
 Price—100 ohms to 10M ohms...\$2.00 \$1.20
 Price—15M ohms to 50M ohms 2.40 1.44
 Price—60M ohms to 100M ohms 2.70 1.65
 Price—125M ohms 3.00 1.80
 Price—150M ohms 3.25 1.95

TYPE 200-C 200-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
100	3,000	15,000	60,000
250	3,500	20,000	75,000
500	4,000	25,000	100,000
1,000	4,500	30,000	125,000
1,500	5,000	35,000	150,000
2,000	7,500	40,000	
2,500	10,000	50,000	

List Price.....\$2.50 Net Price.....\$1.50
 Price—100 ohms to 10M ohms...\$2.50 \$1.50
 Price—15M ohms to 100M ohms 3.00 1.80
 Price—125M ohms to 150M ohms 3.50 2.10

CLAROSTAT Cement Coated Resistors

are available on Special Order with the following terminal connections.

- Type "A"— $\frac{1}{4}$ inch terminal with an $\frac{1}{8}$ inch hole.
- Type "B"— $\frac{1}{4}$ inch terminal with hole for No. 8 screw.
- Type "C"—No. 18 B & S Hot Tinned Copper Wire, $1\frac{1}{2}$ inches long.
- Type "D"—Fuse Clip terminal 9/16 inch diameter.
- Type "E"—Fuse Clip terminal 11/16 inch diameter.
- Type "F"—Fuse Clip terminal 13/16 inch diameter.
- Type "G"—Fuse Clip terminal $1\frac{1}{8}$ inch diameter.
- Type "H"—Medium Edison Base.
- Type "J"—Standard 6 inch flexible lead.

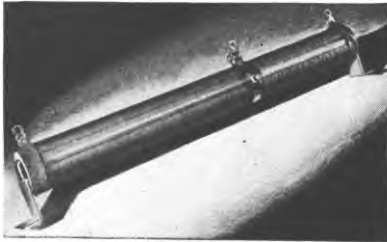
CLAROSTAT

ADJUSTABLE POWER



RESISTORS

WIRE-WOUND POWER RESISTORS



Adjustable Type

Adjustment of the slider to the proper resistance is easily made by loosening the screw and setting to the proper point. The cement covering prevents mechanical injury to the wire and eliminates the possibility of the wire winding shifting. Mounting brackets are furnished with Adjustable Resistors except the small 10 watt size. Brackets for Power Resistors and extra sliders for the Adjustable Resistors are available.

TYPE 100-CA 100-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
100	2,000	8,000	50,000
200	2,500	10,000	60,000
400	3,000	15,000	75,000
500	4,000	20,000	100,000
750	5,000	25,000	125,000
1,000	6,000	30,000	150,000
1,500	7,500	40,000	

Packed in individual boxes
BRACKETS FURNISHED

EXTRA SLIDERS, LIST \$0.15—NET \$0.09

	List Price	Net Price
Price—100 ohms to 5M ohms.	\$2.00	\$1.20
Price—6M ohms to 25M ohms.	2.25	1.35
Price—30M ohms to 50M ohms	2.50	1.50
Price—60M ohms to 100M ohms	2.75	1.65
Price—125M ohms to 150M ohms	3.75	2.25

TYPE 160-CA 160-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
100	2,500	10,000	50,000
200	3,000	15,000	60,000
250	3,500	20,000	70,000
500	4,000	25,000	80,000
1,000	4,500	30,000	100,000
1,500	5,000	35,000	125,000
2,000	7,500	40,000	150,000

Packed in individual boxes
BRACKETS FURNISHED

EXTRA SLIDERS, LIST \$0.15—NET \$0.09

	List Price	Net Price
Price—100 ohms to 10M ohms.	\$2.50	\$1.50
Price—15M ohms to 50M ohms.	2.90	1.74
Price—60M ohms to 100M ohms	3.25	1.95
Price—125M ohms to 150M ohms	3.75	2.25

TYPE 200-CA 200-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
100	2,500	20,000	60,000
500	3,000	25,000	75,000
1,000	5,000	30,000	100,000
1,500	10,000	40,000	
2,000	15,000	50,000	

Packed in individual boxes
BRACKETS FURNISHED

EXTRA SLIDERS, LIST \$0.15—NET \$0.09

	List Price	Net Price
Price—100 ohms to 10M ohms.	\$3.00	\$1.80
Price—15M ohms to 100M ohms	3.50	2.10

TYPE 10-CA 10-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
1	75	750	3,500
2	100	800	4,000
3	150	1,000	4,500
5	200	1,250	5,000
7.5	250	1,450	6,000
10	300	1,500	7,000
15	350	2,000	8,000
20	400	2,250	9,000
25	500	2,500	10,000
50	600	3,000	

Packed in individual boxes
NO BRACKETS FURNISHED

EXTRA SLIDERS, LIST \$0.10—NET \$0.06

LIST PRICE \$0.60 — NET PRICE \$0.36

TYPE 25-CA 25-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
1	150	1,250	6,000
3	200	1,500	7,500
5	250	2,000	8,000
10	300	2,250	9,000
15	400	2,500	10,000
25	500	3,000	12,000
50	750	3,500	15,000
75	800	4,000	20,000
100	1,000	5,000	25,000
			50,000

Packed in individual boxes
BRACKETS FURNISHED

EXTRA SLIDERS, LIST \$0.10—NET \$0.06

	List Price	Net Price
Price—1 ohm to 5M ohms.	\$.85	\$0.51
Price—6M ohms to 15M ohms.	.95	.57
Price—20M ohms to 25M ohms.	1.10	.66
Price—50M ohms	1.25	.75

TYPE 50-CA 50-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
5	300	2,500	15,000
10	400	3,000	20,000
25	500	4,000	25,000
50	750	5,000	30,000
75	800	6,000	40,000
100	1,000	7,500	50,000
150	1,250	8,000	60,000
200	1,500	10,000	75,000
250	2,000	12,000	100,000

Packed in individual boxes
BRACKETS FURNISHED

EXTRA SLIDERS, LIST \$0.10—NET \$0.06

	List Price	Net Price
Price—5 ohms to 5M ohms.	\$1.35	\$0.81
Price—6M ohms to 25M ohms.	1.50	.90
Price—30M ohms to 50M ohms	1.70	1.02
Price—60M ohms to 100M ohms	2.00	1.20

TYPE 80-CA 80-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
5	400	3,500	25,000
10	500	4,000	30,000
15	750	5,000	35,000
25	800	6,000	40,000
50	1,000	7,500	45,000
100	1,500	8,000	50,000
200	2,000	10,000	60,000
250	2,500	15,000	80,000
300	3,000	20,000	100,000

Packed in individual boxes
BRACKETS FURNISHED

EXTRA SLIDERS, LIST \$0.15—NET \$0.09

	List Price	Net Price
Price—5 ohms to 5M ohms.	\$1.75	\$1.05
Price—6M ohms to 25M ohms.	2.00	1.20
Price—30M ohms to 50M ohms	2.25	1.35
Price—60M ohms to 100M ohms	2.50	1.50

NON-INDUCTIVE RESISTORS

CLAROSTAT Wire-Wound — Cement Coated Non-Inductive Resistors are constructed and wound in such a manner that the inductance is kept to a minimum. Proven by "Hams" to be ideal for use

as "Dummy Antennas" up to and including 30 megacycles.

Non-Inductive resistors are available in 10, 20, 25, 40, 50 and 80 watt sizes.

Resistance values range from 1 ohm to 5,000 ohms.

Windings Protected by the CLAROSTAT Green Cement Coating

Applications recommended are, Dummy Antennas, load resistors in high frequency circuits, radio therapy, diathermy, therapeutic machines.

Stock values in 50 watt size are 73, 200, 400, 600 ohms.

Wattage	List Price	Net Price
10 Watt	\$1.25	\$0.75
20 Watt	1.75	1.05
25 Watt	2.20	1.32
40 Watt	2.70	1.62
50 Watt	3.00	1.80
80 Watt	3.50	2.10

(Packed in individual boxes)

CLAROSTAT

RESISTOR TUBES



REGULATORS

UNIVERSAL METAL-TUBE RESISTORS

Universal Tube No.	Replaces AC-DC Tubes beginning with letters	Having numbers from	Ending in letter
10*23-A	BK, BL, K, L, M	10 to 23	A, B, C, D
10*23-E	BK, BL, K, L, M	10 to 23	E
10*23-F	BK, BL, K, L, M	10 to 23	F, G, H,
23*55-A	BK, BL, K, L, M	23 to 55	A, B, C, D
23*55-E	BK, BL, K, L, M	23 to 55	E
23*55-F	BK, BL, K, L, M	23 to 55	F, G, H,
60*92-A	BK, BL, K, L, M	60 to 92	A, B, C, D
60*92-E	BK, BL, K, L, M	60 to 92	E
60*92-F	BK, BL, K, L, M	60 to 92	F, G, H,
92*105-A	BK, BL, K, L, M	92 to 105	A, B, C, D

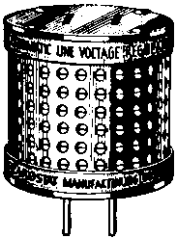
The Universal Resistor Tube will operate any AC-DC set within the voltage ranges specified on the tube, regardless of what pilot current is drawn or any pilot lamp combination.

The tube will operate regardless of pilot lamp or lamps burning out, operating well within the .3 ampere range required for the filaments of the tubes. Should pilot lamps burn out, the current will still be within range for efficient operation of tubes.

Regardless of line voltage variation, the tube will operate efficiently.

Available with UX Base
LIST PRICE \$1.00 — NET PRICE \$0.60

AUTOMATIC LINE-VOLTAGE REGULATORS



The Clarostat Automatic Line Voltage Regulator illustrated is designed for use with 110-volt socket power radio sets not equipped for line ballasts.

At 110 volts, the resistance of the units is low and the voltage drop across them is negligible. As the line voltage increases, however, the resistance of the units increases with a consequent increase in voltage drop across them, keeping the voltage across the primary of the power transformer of the set practically

constant, even though the line voltage increases up to 140 volts.

To install this unit, all that is necessary is to insert the usual attachment plug of the radio set into the slots provided in the top. Then insert the prongs of the unit into the slots of the usual screw type plug or convenience outlet of the electric light system.

The body dimensions of this unit are only 1 1/4 in. in diameter and 1 3/4 in. in length. The prongs are 3/8 in. long.

Type Rating For Use With No. of No. Watts Sets Consuming Tubes Used

O	50	Up to 60 Watts	4
A	100	60 to 100 Watts	5, 6, 7
B	150	100 to 150 Watts	8, 9, 10
C	200	150 to 200 Watts	11, 12
D	250	200 to 250 Watts	2 Type 50
E*	100	60 to 100 Watts	

* Note: For use with 220 volt receivers.

List Price, All Types, \$1.00
NET PRICE \$0.60

CLAROSTAT REPLACEMENT LINE BALLASTS

The Clarostat Line Ballasts are available in a wide variety of types to meet the requirements of the standard receivers listed. These receivers have been designed to include a Line Ballast and are provided with sockets into which the Clarostat Line Ballasts can be inserted.

The Clarostat Line Ballasts will maintain the normal voltage across the primary of the power transformers of these sets within the allowable limits for efficient operation in spite of line voltage fluctuations over a range of from 95 to 135 volts.

The body dimensions of these units are 1 1/4 in. in diameter and 3 1/4 in. in length.

LIST PRICE \$1.75
NET PRICE \$1.05

Recommended Replacements

Manufacturer	Ballast Type No.
Belmont	2518
Bremer-Tully	
S-81, S-82	6412
S-83, S-84	2169
25 cycles	2518
Brunswick S-14, S-21, S-31	6412
25 cycles	2518
Canadian Marconi, Ltd.	2914
Clarion—51, 53, 55	2408
Erla	5400

Manufacturer	Ballast Type No.
Grebe	
SK-4 105 Volts	6310
SK-4 138 Volts	6420
SK-4 115 Volts	6412
HS-5 125 Volts	0600
M-3-4 115 Volts	0500
HS-12 115 Volts	0500
HS-6 115 Volts	0500
HS-4 125 Volts	0710
M-1-2 115 Volts	0608
HS-8 Single Pent	0608
HFL Mastertone	4210
Hammarlund Roberts	
HiQ 30	2179
HiQ 31	2408
Kennedy	
426, 526, 626, 726, 826, 632, 1030	6412
Kylectron	
K-71, K-72	6310
Larkin	2314
Larkin	6412
Majestic, 60 cycles	
70-71 Power Pack 7P6, 1928	1516
Power Pack 7BP6, 1929	1508
180-181 Power Pack 8P6	1012
90-91-92-100	1210
Majestic, 25 cycles	
181-8P3	1000
70-7-B-P-3	1422
90-9-P-3	1024
Nathaniel Baldwin	2516
Peerless 71, 72	6310
Pierson	2500

Manufacturer	Ballast Type No.
Roger Majestic	
400, 60 cycles	2832
400, 25 cycles	2734
480, 490	2734
Scott A. C. 10	2179
Silver-Marshall	
30B, 30, 60B, 60, 75B, 75, 95	
Highboy	2179
Simplex	2516
Sonora	
A30, A32, A40	2179
A36, A44, A46	4210
Star Raider R-20, R-30, RE-40	2100*
Starck Piano	2518
Stewart Warner	
900	5001
950	5002
R-100	5003
United Reproducer	
21, 22, 23, 24, 25	6310
UV-876 Tube	2200†
UV-886 Tube	2000†

†NOTE: MOGUL BASE, DOUBLE LENGTH CASE
 *NOTE: USE TWO BALLASTS IN SERIES

A special double length Clarostat Ballast, Type 2200 and 2000 having a Mogul Base adapter, is supplied to replace the UV-876 and UV-886 Ballast Tubes respectively.

TYPE 2000, LIST PRICE \$5.00
NET PRICE \$3.00

TYPE 2200, LIST PRICE \$5.00
NET PRICE \$3.00

CLAROSTAT LINE REDUCING BALLASTS

For use with Universal A.C. and D.C. Receivers

These Line reducing ballasts are equipped with both male and female plugs in five varying combinations:

For use with American Standard plug add letter "C" to above type numbers; for use with Continental European standard plug, add letter "E"; for use with United Kingdom standard plug, add letters "UK"; for use with female American standard and male Continental European standard add letters "EF"; for use with female American Standard and male United Kingdom standard add letters "CUK."

Special Line Reducing Ballasts may be had when complete information is furnished as to name of manufacturer and model

number of receiver, current drain, line voltage on which used and voltage drop desired.

Milliamper Drain of Set	Line Voltage	Voltage Drop	Ballast Type No.
300 - 340	220	110	7724
350 - 390	220	110	7720
400 - 440	220	110	7626
450 - 500	220	110	7622

LIST PRICE \$1.75 — NET PRICE \$1.05

CLAROSTAT

POWER CORDS—RESISTORS



ROTARY SWITCHES—GLASOHMS

Clarostat Power Cords

Intended for replacement of voltage-dropping resistors, these line-cord resistors are employed mainly for AC-DC radio sets.

Cord No.	Total Filament Drop	Resistance
PC*350	12 to 17 volts	350 ohms
PC*230	18 to 24 volts	330 ohms
PC*290	25 to 31.5 volts	290 ohms
PC*250	32 to 44.5 volts	250 ohms
PC*220	45 to 52 volts	220 ohms
PC*180	53 to 61 volts	180 ohms
PC*160	62 to 68.9 volts	160 ohms
PC*135	69 to 75.2 volts	135 ohms
PC-90	76 to 86 volts	90 ohms

List Price \$0.75 — Net Price \$0.45

XC-250	220-110 volts	250 ohms
XC-275	220-110 volts	275 ohms
XC-320	220-110 volts	320 ohms

List Price \$1.50 — Net Price \$0.90

Cord No.	4 Conductor (Fada)	Resistance Ohms
PC-120-25	(Fada)	145
PC-135-25	(Fada)	160
PC-142.5-22.5	(RCA)	165
PC-145-25	(Fada)	170
PC-154-25	(RCA)	179
PC-165-22.5	(Peewee)	187.5
PC-150-40	(Emerson)	190
PC-175-25	(RCA)	200
PC-225-40	(Emerson)	265
PC-245-40	(Emerson)	285

List Price \$1.00 — Net Price \$0.60

GENERAL UTILITY RESISTORS — SERIES "HT"

This series of general utility resistors are setting new standards of performance. Many applications can be found for this resistor . . . soldering iron control . . . small motor control. A special size Greenohm is the heart of this device.



SERIES HTA

SERIES HTA—75 Watts

List Price \$4.50 — Net Price \$2.70

Equipped with both Edison Male and Female receptacles. 3" in diameter, 4½" long.

Type No.	Resist.	Type No.	Resist.
HTA-120	120 ohms	HTA-275	275 ohms
HTA-150	150 ohms	HTA-425	425 ohms
HTA-195	195 ohms	HTA-500	500 ohms
HTA-250	250 ohms		

SERIES HTAA—150 Watts

List Price \$5.50 — Net Price \$3.30

Equipped with both Edison Male and Female receptacles. 8" in diameter, 8½" long.

Type No.	Resist.	Type No.	Resist.
HTAA-120	120 ohms	HTAA-275	275 ohms
HTAA-150	150 ohms	HTAA-425	425 ohms
HTAA-195	195 ohms	HTAA-500	500 ohms
HTAA-250	250 ohms		

SERIES HTB—75 Watts

List Price \$4.50 — Net Price \$2.70

Equipped with one Female Edison receptacle and a three foot cord with spring male plug. 3" in diameter, 4½" long.

Type No.	Resist.	Type No.	Resist.
HTB-120	120 ohms	HTB-275	275 ohms
HTB-150	150 ohms	HTB-425	425 ohms
HTB-195	195 ohms	HTB-500	500 ohms
HTB-250	250 ohms		

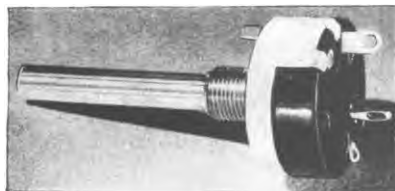
SERIES HTBB—150 Watts

List Price \$5.50 — Net Price \$3.30

Equipped with one Female Edison receptacle and a three foot cord with spring male plug. 3" in diameter, 8½" long.

Type No.	Resist.	Type No.	Resist.
HTBB-120	120 ohms	HTBB-275	275 ohms
HTBB-150	150 ohms	HTBB-425	425 ohms
HTBB-195	195 ohms	HTBB-500	500 ohms
HTBB-250	250 ohms		

Rotary Switches

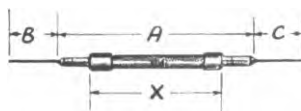


Switch Description	List Price	Net Price
Single Pole Single Throw . . .	\$0.50	\$0.30
Single Pole Bussing Lug. . . . .	.50	.30
Double Pole Single Throw . . . .	.60	.36
Single Pole Double Throw . . . .	.60	.36
Single Pole Reversed Action . . .	.50	.30
Four Wire Single Throw . . . . .	.60	.36
2 Pole—3 Position . . . . .	.60	.36

Can be used as 2 Pole—3 Position Tone Switch.
Can be used as A.C. Line & 2 Position Tone Switch.
Can be used as Amplifier & Phono. Motor Switch.

¼" Bushing	⅜" Bushing	½" Bushing	¾" Bushing	1" Bushing
8570-1	8570	8570-2	8570-3	8570-4
8571-1	8571	8571-2	8571-3	8571-4
8572-1	8572	8572-2	8572-3	8572-4
8573-1	8573	8573-2	8573-3	8573-4
8574-1	8574	8574-2	8574-3	8574-4
8575-1	8575	8575-2	8575-3	8575-4
8582-1	8582	8582-2	8582-3	8582-4

GLASOHMS* — FIBRE-GLASS POWER RESISTORS AND HEATING UNITS



"X" directly proportional to watt dissipation.

TYPE "FX"—Watts per inch = one half. Core diameter 1/16 inch.

TYPE "FXG"—Watts per inch = one. Core diameter 1/16 inch.

TYPE "FY"—Watts per inch = one. Core diameter ¼ inch.

TYPE "FYG"—Watts per inch = two. Core diameter ½ inch.

"A" = "X" + ½ inch.

"B" = "C" = 2 inches. (Std.)

All linear measurements ± ¼ inch.

*Trade Mark

TYPE FXG—1 Watt

1" Fabric length with 2" Pigtaills
1/16" Diameter Core

Type No.	Ohms	Type No.	Ohms
FXG5	5	FXG300	300
FXG10	10	FXG350	350
FXG15	15	FXG375	375
FXG25	25	FXG400	400
FXG40	40	FXG450	450
FXG50	50	FXG500	500
FXG60	60	FXG600	600
FXG75	75	FXG700	700
FXG100	100	FXG750	750
FXG125	125	FXG800	800
FXG150	150	FXG850	850
FXG200	200	FXG900	900
FXG225	225	FXG1000	1000
FXG250	250		

List Price \$0.20 — Net Price \$0.12

TYPE FYG—2 Watt

1" Fabric length with 2" Pigtaills
¼" Diameter Core

Type No.	Ohms	Type No.	Ohms
FYG5	5	FYG375	375
FYG10	10	FYG400	400
FYG15	15	FYG500	500
FYG25	25	FYG600	600
FYG40	40	FYG700	700
FYG50	50	FYG750	750
FYG60	60	FYG800	800
FYG75	75	FYG850	850
FYG100	100	FYG900	900
FYG125	125	FYG1000	1000
FYG150	150	FYG1250	1250
FYG200	200	FYG1500	1500
FYG225	225	FYG1600	1600
FYG250	250	FYG1750	1750
FYG300	300	FYG2000	2000
FYG350	350		

List Price \$0.25 — Net Price \$0.15

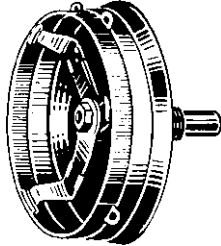
"T" PAD AND "L" PAD WIREWOUND ATTENUATORS

For controlling volume in circuits and microphones, loudspeakers, phonograph pick-ups, mixers, audio and public address amplifiers and similar uses.

10-WATT "T" PADS OPEN FRAME TYPE

BODY: $2\frac{1}{16}$ " diameter, $\frac{3}{32}$ " deep.
 BUSHING: $\frac{7}{16}$ " diameter, $\frac{3}{8}$ " long.
 SHAFT: $\frac{1}{4}$ " diameter, $\frac{1}{16}$ " long, from bushing.
 Mounts in single $\frac{1}{16}$ " hole.
 Supplied with one mounting nut and two insulating washers for $\frac{3}{32}$ " hole.
 10 watts (+32.2 DB level*) for average program material.
 5 watts (+29.2 DB level*) steady tone, in infinite attenuation or "silent" position.
 Effective rotation: 82 degrees.

Stock No.	Impedance	List	Net
TA-8	8 Ohms	\$3.75	\$2.25
TA-16	16 Ohms	3.75	2.25
TA-50	50 Ohms	3.75	2.25
TA-200	200 Ohms	3.75	2.25
TA-500	500 Ohms	3.75	2.25
TA-1000	1000 Ohms	3.75	2.25

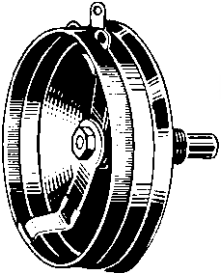


Type TA

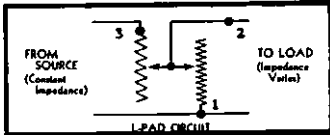
15-WATT "L" PADS OPEN FRAME TYPE

BODY: $2\frac{1}{16}$ " diameter, $\frac{3}{32}$ " deep.
 BUSHING: $\frac{7}{16}$ " diameter, $\frac{3}{8}$ " long.
 SHAFT: $\frac{1}{4}$ " diameter, $\frac{1}{16}$ " long, from bushing.
 Mounts in single $\frac{1}{16}$ " hole.
 Supplied with one mounting nut and two insulating washers for $\frac{3}{32}$ " hole.
 15 watts (+34.0 DB level*) for average program material.
 7 1/2 watts (+31.0 DB level*) steady tone, in infinite attenuation or "silent" position.
 Effective rotation: 142 degrees.

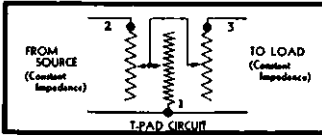
Stock No.	Impedance	List	Net
LA-8	8 Ohms	\$3.25	\$1.95
LA-16	16 Ohms	3.25	1.95
LA-50	50 Ohms	3.25	1.95
LA-200	200 Ohms	3.25	1.95
LA-500	500 Ohms	3.25	1.95
LA-1000	1000 Ohms	3.25	1.95



Type LA



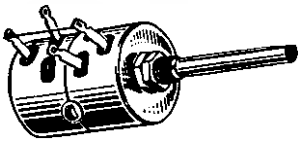
L-PAD CIRCUIT



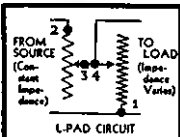
T-PAD CIRCUIT

8-WATT "L" PADS ENCLOSED DUAL TYPE

BODY: $1\frac{1}{16}$ " diameter, $1\frac{1}{2}$ " deep.—BUSHING: $\frac{3}{8}$ " diameter, $\frac{3}{8}$ " long.—SHAFT: $\frac{1}{4}$ " diameter, $1\frac{1}{2}$ " long from bushing.—Mount in single $\frac{3}{8}$ " hole. Supplied with two hex. mounting nuts.—8 watts (+31.2 DB level*) for average program material.—4 watts (+28.2 DB level*) steady tone, in infinite attenuation or "silent" position.—Effective rotation: 276 degrees. All electrical parts insulated from housing.



Type LE

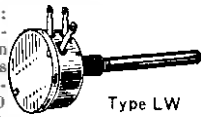


L-PAD CIRCUIT

Stock No.	Impedance	List	Net
LE-8	8 Ohms	\$2.50	\$1.50
LE-16	16 Ohms	2.50	1.50
LE-50	50 Ohms	2.50	1.50
LE-200	200 Ohms	2.50	1.50
LE-500	500 Ohms	2.50	1.50
LE-1000	1000 Ohms	2.50	1.50

4-WATT "L" PADS ENCLOSED SINGLE TYPE

BODY: $1\frac{1}{16}$ " diameter, $\frac{1}{4}$ " deep.—BUSHING: $\frac{3}{8}$ " diameter, $\frac{3}{8}$ " long.—SHAFT: $\frac{1}{4}$ " diameter, $1\frac{1}{2}$ " long from bushing. Mount in single $\frac{3}{8}$ " hole.—Supplied with two brass hex mounting nuts. All electrical parts insulated from housing. Effective rotation 120 degrees. 4 watts (+28.2 DB level*) for average program material. 1 1/2 watts (+24.6 DB level*) steady tone, in infinite attenuation or "silent" position. Same connections as for Type LA Open Frame Attenuator.



Type LW

Stock No.	Impedance	List	Net
LW-8	8 Ohms	\$1.50	\$0.90
LW-16	16 Ohms	1.50	.90
LW-50	50 Ohms	1.50	.90
LW-200	200 Ohms	1.50	.90
LW-500	500 Ohms	1.50	.90
LW-1000	1000 Ohms	1.50	.90

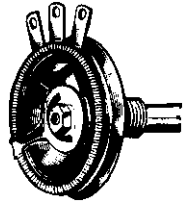
* Using Zero level of 6 milliwatts.

WIREWOUND POTENTIOMETERS AND RHEOSTATS

The many years of continued preference for these pioneers of the small variable resistor field proves their dependability and high quality. Resistance elements clamped permanently in place, in one-piece cadmium-plated all-metal frame. Open construction gives the maximum heat dissipation for their size. Contact arm grounded to bushing and frame.

3-WATT POTENTIOMETERS & RHEOSTATS

BODY: $1\frac{1}{16}$ " diameter, $\frac{1}{4}$ " depth behind panel.
 BUSHING: $\frac{3}{8}$ " diameter, $\frac{3}{8}$ " long.
 SHAFT: $\frac{1}{4}$ " diameter, $1\frac{1}{2}$ " long from bushing.
 Pots: Three terminals, no off position.
 Rheostats: 2 terminals, with off position.
 Effective rotation: 285 degrees.
 Mounts in single $\frac{3}{8}$ " hole.
 Supplied with one hex. mounting nut, one flat and one swdged insulating washer for $\frac{1}{16}$ " hole.



Type MP

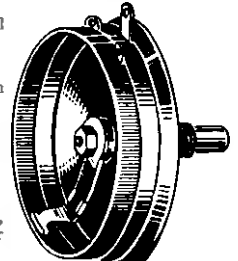
STOCK VALUES IN OHMS

	6	25	75	500
1	10	30	100	1,000
2	15	40	200	1,500
3	20	50	400	

Stock No.	MP—Potentiometer, all sizes	LIST	NET
		\$0.50	\$0.30
Stock No.	MR—Rheostats, all sizes	LIST	NET
		.50	.30

15-WATT POTENTIOMETERS

BODY: $2\frac{1}{16}$ " diameter, $\frac{3}{32}$ " depth behind panel.
 BUSHING: $\frac{7}{16}$ " diameter, $\frac{3}{8}$ " long.
 SHAFT: $\frac{1}{4}$ " diameter, $\frac{1}{16}$ " long from bushing.
 Three terminals; no off position.
 Effective rotation: 300 degrees.
 Wirewound on bakelite strip.
 Mounts in single $\frac{1}{4}$ " hole.
 Supplied with one hex. mounting nut, two extruded insulating washers for $\frac{3}{32}$ " hole.



Type PW

Stock No.	Resist. in Ohms	Stock No.	Resist. in Ohms
PW-100	100	PW-1M	1000
PW-150	150	PW-2M	2000
PW-200	200	PW-3M	3000
PW-250	250	PW-5M	5000
PW-300	300	PW-7500	7500
PW-400	400	PW-10M	10000
PW-500	500	PW-20M	20000
PW-800	800	PW-50M	50000

Stock No.	PW—Potentiometers, all sizes	LIST	NET
		\$1.50	\$0.90

25-WATT RHEOSTATS

Same size as PW 15-Watt type, but resistance element wound on asbestos-covered steel strip for greater heat dissipation. Two terminals with off position.

Stock No.	Resist. in Ohms	Stock No.	Resist. in Ohms
SW-1	1	SW-60	60
SW-2	2	SW-75	75
SW-3	3	SW-100	100
SW-6	6	SW-150	150
SW-10	10	SW-200	200
SW-15	15	SW-250	250
SW-20	20	SW-300	300
SW-30	30	SW-400	400
SW-40	40	SW-500	500
SW-50	50		

Stock No.	SW—Rheostats, all sizes	LIST	NET
		\$1.25	\$0.75

TWO-CONDUCTOR PLUGS

Tip and sleeve circuits; fit standard 2-conductor jacks. New types now stocked for wide range of uses. For headphones, microphones, speakers, musical instruments, medical and test equipment, many others.

Molded Bakelite Handles: Now stocked in both red and black as listed. Metal Shield Handles: Bright nickel-plated, with internal 2-layer high-quality tubular insulators, preventing short-circuits in handle.

TU-WAY PHONE PLUGS



No. 4



No. 7

A general-purpose type popular for years. Terminals flat with grooves for one or two phone tips, terminals or wires. Broad-headed knurled binding screws with screw driver slots. Handles $\frac{1}{2}$ " diameter, $2\frac{1}{4}$ " long.

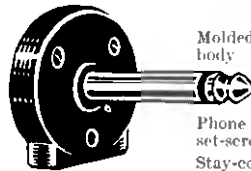
	LIST	NET
No. 4—Black bakelite handle.....	\$0.40	\$0.24
No. 13—Red bakelite handle.....	.40	.24
No. 7—Shield handle.....	.90	.54

ONE-WAY PLUGS

Spring-grip terminals for one pair phone tips. No set screws. Stay-cord anchor. Handles $\frac{1}{2}$ " diameter, $1\frac{1}{2}$ " long.

	LIST	NET
No. 3—Black bakelite handle.....	\$0.60	\$0.36
No. 19—Red bakelite handle.....	.60	.36

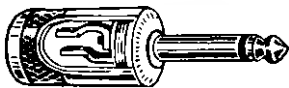
No. 2 FLAT PLUG



Molded black bakelite body $\frac{1}{4}$ " thick, $1\frac{1}{4}$ " diameter. Ideal for panel or wall-plate. Phone tips gripped by set-screws. Stay-cord anchor.

	LIST	NET
No. 2 Flat Plug.....	\$0.65	\$0.39

No. 16 SHIELDED PLUG



For plain or shielded cords. Broad flat tinned soldering terminals. Shield handle $\frac{1}{2}$ " diameter, 1" long.

	LIST	NET
No. 16 Shielded Plug.....	\$0.85	\$0.51

No. 17 SHIELDED PLUG

Designed for cords with center conductor and braided return-conductor shield. Perfect anchoring; sleeve terminal bends to clamp shield braid after soldering in $\frac{3}{32}$ " hole. Shield handle $\frac{1}{2}$ " diameter, 1" long.

	LIST	NET
No. 17 Shielded Plug.....	\$0.90	\$0.54

No. 18 SHIELDED PLUG

Insulation $\frac{1}{8}$ " wide between tip and sleeve. Used with 3-conductor jack, other 2-conductor plugs short "ring" spring to sleeve; this plug leaves it open, for circuit switching. Also fits 2-conductor jacks. Shield handle $\frac{1}{2}$ " diameter, 1" long.

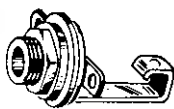
	LIST	NET
No. 18 Shielded Plug.....	\$0.85	\$0.51

THREE-CONDUCTOR PLUGS

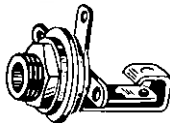
Tip, ring, and sleeve circuits; fit standard 3-conductor jacks. For 2-button microphones, or circuits of 3 wires or 2 wires and separate shield. Bakelite handles $\frac{1}{2}$ " diameter, $1\frac{1}{2}$ " long. Shield handles $\frac{1}{2}$ " diameter, 1" long, tubular insulator prevents short circuits.

	LIST	NET
No. 6—Black bakelite handle.....	\$0.85	\$0.51
No. 23—Red bakelite handle.....	.85	.51
No. 9—Shield handle.....	1.35	.81

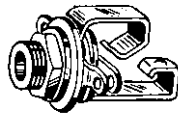
IMP SHORT JACKS



No. 1—Open Circuit Jack



No. 2-A—Closed Circuit Jack



No. 2-B—Microphone Jack

Utah-Carter Imp Short Jacks are popular because they combine compact size, highest quality and economical price. Unique, patented design makes them the smallest jack fitting standard plugs. . . . The new No. 2-B Microphone Imp Short Jack now gives these same desirable features in a 3-conductor jack, having tip, ring and sleeve circuits. . . . These jacks all have finest grade bakelite insulators, tempered nickel-silver springs, and bright nickel-plated threaded brass bushing. . . . Mount in single $\frac{3}{8}$ " hole in panels up to $\frac{1}{8}$ " thick without insulating washers, or $\frac{1}{8}$ " with insulating washers. . . . Supplied with one $\frac{1}{2}$ " hexagonal nickel-plated mounting nut and washer, one flat and one swedged washer for $\frac{7}{16}$ " panel hole.

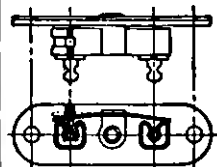
	LIST	NET
No. 1—Open Circuit Imp Short Jack—Has tip and sleeve circuits only. Electrical equivalent of Nos. 101 and 501.....	\$0.25	\$0.15
No. 2-A—Closed Circuit Imp Short Jack—Similar to No. 1, with an additional spring making contact with tip spring until plug is inserted. Electrical equivalent of Nos. 102-A and 502-A.....	.30	.18
No. 2-B—Microphone Imp Short Jack—A new 3-conductor jack, having tip, ring and sleeve circuits. Fits standard 3-circuit microphone plugs. Electrical equivalent of Nos. 102-B and 502-B.....	.35	.21

DUAL TIP JACKS

Utah-Carter Dual Tip Jacks are rugged simple units designed to receive two standard phone tips. It is these jacks which have been so widely used by large radio manufacturers to provide phone-television sound connections to today's radio, or to provide earphone connection on the popular portable radios.

Dimensions: Length $2\frac{1}{8}$ " overall; Width $\frac{5}{8}$ "; Depth $\frac{1}{2}$ " overall; Mounting Centers $1\frac{1}{2}$ ". Three circuit arrangements are available and are carried in stock.

Stock No.	Circuit Arrangement	List	Net
TU-11	Open circuit type; simple receptacles only.	\$0.25	\$0.15
TU-21	Automatic Shunt. (Receptacles normally short-circuited to each other; short circuit removed when tip inserted in receptacle A, by means of small fibre lifter.)	\$0.35	\$0.21
TU-31	Closed Circuit Type. Similar to TU-21 but automatic shunt spring is permanently insulated from receptacle B, making it similar to No. 2A Jack switching action.	\$0.40	\$0.24



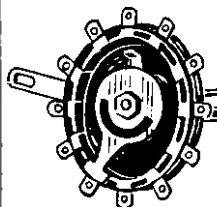
No. TU-21

PORTABLE JACKS

Used on end of extension cord. Fit 2-conductor plugs. Screw terminals take one pair phone tips, terminals or wires. Handles $\frac{1}{2}$ " diameter, $2\frac{1}{4}$ " long. Shield handles have tubular insulator to prevent short circuits.

	LIST	NET
No. 12—Black bakelite handle.....	\$0.60	\$0.36
No. 25—Red Bakelite handle.....	.60	.36
No. 8—Shield handle.....	1.10	.66

IMP TAP SWITCH

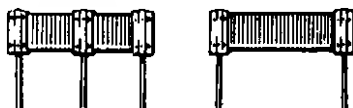


Positive snap action — strong wiping contact grounded to shaft and bushing. In operation contact breaks between makes.

Bushing length $\frac{3}{8}$ ". Shaft $\frac{1}{8}$ " from end of bushing.

Type	No. of Positions	List	Net
602	2 Points	\$0.50	\$0.30
603	3 Points	.50	.30
604	4 Points	.50	.30
605	5 Points	.50	.30
606	6 Points	.50	.30
607	7 Points	.50	.30
608	8 Points	.75	.45
609	9 Points	.75	.45
610	10 Points	.75	.45
611	11 Points	.75	.45
612	12 Points	.75	.45

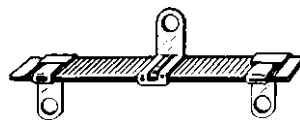
2 1/2 WATT WIREWOUND RESISTORS



Precision Wound on Bakelite Forms. Size $\frac{1}{2}$ " x $1\frac{1}{2}$ " with $2\frac{1}{2}$ " Flexible Leads.

Stock Values in Ohms					
1	5	12	25	100	750
2	6	15	30	200	1,000
3	8	18	40	300	2,000
4	10	20	50	500	3,000

Type	LIST	NET
SH—Resistor.....	\$0.20	\$0.12
SHC—Resistor, Center-tapped.....	.25	.15



Type CU—Center Tapped. Mounting Centers End Terminals 1".

Stock Values in Ohms		
6	20	100
10	40	200
15	60	400

Type CU Resistor—
List Price \$0.20..... Net Price \$0.12

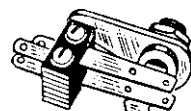
LONG AND SHORT JACKS

SHORT JACKS



No. 103

Utah-Carter short jacks are small and compact, but do a full sized job. Depth behind panel is cut down by placing the tempered nickel-silver springs parallel to the panel. High quality sheet bakelite and tubular ebonite insulators are used throughout; No paper or fibre used in Utah-Carter jacks. Supplied with nickel-plated hex. mounting nut and nickel-washer.



No. 502-B

LONG JACKS

The original long jacks adapted from telephone switchboard jacks. Long rugged phosphor-bronze springs parallel to the plug axis give precise action. These jacks take minimum panel mounting space, less than the short jacks.

Supplied with nickel-plated hex. shoulder mounting nut and nickel-plated washer.

Short and long jacks mount in single $\frac{3}{8}$ " hole in panels up to $\frac{1}{8}$ " thick. Fit of the plug in the jack is not affected by the thickness of the panel. Fit all standard plugs in two- and three-conductor types. Strong bright cadmium plated steel frame.

All contacts between springs are fine silver, giving minimum contact resistance.

For 2-Conductor Plugs, with Tip and Sleeve Only

Circuits	Stock Nos.	Contact Arrangement	Long Jacks			Short Jacks		
			Stock No.	List Price	Net Price	Stock No.	List Price	Net Price
	1-101 501	Open circuit	101	\$0.50	\$0.30	501	\$0.40	\$0.24
	502	Single closed circuit	102	.60	.36	502	.55	.33
	2A 102A 502A	Break contact on tip spring	102-A	.60	.36	502-A	.55	.33
	133 533	Sleeve spring; break contact on tip spring	133	.70	.42	533	.65	.39
	103 503	Separate make contact springs	103	.70	.42	503	.65	.39
	103A 503A	Break-make contacts on tip spring	103-A	.70	.42	503-A	.65	.39
	104 504	Sleeve spring; break contacts on tip and sleeve springs	104	.70	.42	504	.75	.45
	104A 504A	Break contact on tip spring; separate make contact springs	104-A	.80	.48	504-A	.75	.45
	105 505	Break contact on tip spring; separate break-make contact springs	105	.90	.54	505	.85	.51
	106 506	Sleeve spring; break contacts on tip and sleeve springs; separate break contact springs	106	1.00	.60	506	.95	.57

For 3-Conductor Plugs—With Tip, Ring and Sleeve—(2-Button Microphone, Etc.)

	2B 102B 502B	Open circuit	102-B	.60	.36	502-B	.55	.33
	103B 503B	Break contact on tip spring	103-B	.70	.42	503-B	.65	.39
	104B 504B	Break contacts on tip and ring springs	104-B	.80	.48	504-B	.75	.45

UTAH SENSITIVE D.C. RELAYS—PLUG-IN TYPE

low-priced, high quality plug-in relays. Dust-proof, tamperproof, accurately adjusted for reliable operation, sealed in vibrator-type zinc housing, $3\frac{1}{2}$ " x $1\frac{1}{2}$ ".

CAREFULLY ENGINEERED: Ratings overlap: For reliable operation from 1.2 to 120 volts or from 6 to 516 M.A., D.C., select relay from list.

CONTACTS: Fine silver for minimum contact resistance. 5 amperes, 115 volts A.C. non-inductive loads. For D.C. and inductive A.C. loads, arcing reduced by connecting 0.1 to 2 M.F. across contacts, with 10 to 500 ohms in series with condenser.



Type RA-A-
"Break" Con-
tacts (Normally
Closed)



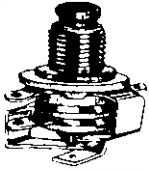
Type RA-B-
"Make" Con-
tacts (Normally
Open)



Type RA-C-
"Break-Make"
Contacts (Single
Pole Double
Throw)

Stock No.	Contacts	List Price	Net Price
2-Volt Relays—15 Ohms—1.2 to 7.75 volts—80 to 516 M.A.			
RAA-2	Single Break, normally closed	\$2.25	\$1.35
RAB-2	Single Make, normally open		
RAC-2	Single Break-Make, S.P.D.T.		
6-Volt Relays—90 Ohms—3.15 to 19 Volts—35 to 210 M.A.			
RAA-6	Single Break, normally closed	2.25	1.35
RAB-6	Single Make, normally open		
RAC-6	Single Break-Make, S.P.D.T.		
32-Volt Relays—1000 Ohms—12 to 63 Volts—12 to 63 M.A.			
RAA-32	Single Break, normally closed	2.50	1.50
RAB-32	Single Make, normally open		
RAC-32	Single Break-Make, S.P.D.T.		
110-Volt Relays—3000 Ohms—18 to 120 Volts—6 to 40 M.A.			
RAA-110	Single Break, normally closed	3.00	1.80
RAB-110	Single Make, normally open		
RAC-110	Single Break-Make, S.P.D.T.		

IMP PUSHBUTTON SWITCHES



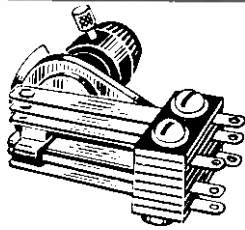
1S-30 Series

These switches are similar in general construction to the widely popular Utah-Carter Imp Short Jacks. Finest nickel-silver springs with integral contacts. High grade phenolic insulation. Body, nuts and washers bright nickel plated. Red or black Kolonite 1-piece shaft and button. Springs fully insulated from the mounting bushing and shaft. Made in three circuit arrangements:

- 1S-10 Series: "Make" contact, single circuit normally open.
- 1S-20 Series: "Break" contact, single circuit normally closed.
- 1S-30 Series: "Break-Make" contacts, single circuit, double-throw.

Description:—One-piece combined shaft and push-button. Mount in $\frac{3}{8}$ " hole in panel up to $\frac{1}{2}$ " thick. Supplied with one nickel-plated hex nut and washer.

Circuit	Contact Arrangement	Red Pushbutton Stock No.	Black Pushbutton Stock No.	List Price	Net Price
	"Single Make"	IS-11	IS-13	\$0.75	\$0.45
	"Single Break"	IS-21	IS-23	\$0.75	\$0.45
	One "Break-Make"	IS-31	IS-33	\$0.75	\$0.45



UTAH-CARTER ROTARY LONG AND SHORT JACK SWITCHES

Rotary Two and Three Position—Long and Short Types.

SHORT JACK SWITCHES

Similar in design to Utah-Carter short jacks, these switches are small and compact.

LONG JACK SWITCHES

Similar in design to Utah-Carter long jacks, these are full-size switches, but take less panel space than the short jack switches.

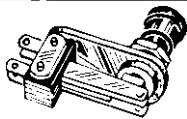
All rotary jack switches supplied with knob and pointer screw, one nickel-plated hex. mounting nut and nickel-plated washer. Fit $\frac{3}{8}$ " hole in panels up to $\frac{1}{4}$ " thick. All electrical parts fully insulated from frame.

Two Position Switches

Circuits	Contact Arrangement	Long Jack Switches			Short Jack Switches		
		Stock No.	List Price	Net Price	Stock No.	List Price	Net Price
	Single make (SPST)	22	\$0.75	\$0.45	322	\$0.70	\$0.42
	Single break-make (SPDT)	33	.90	.54	333	.85	.51
	Two makes (DPST)	44	1.00	.60	344	.95	.57
	One break-make, one make (1-SPDT-1-SPST) (Normally Open)	55	1.15	.69	355	1.10	.66
	Two break-makes (2-SPDT)	66	1.25	.75	366	1.25	.75
	Three makes (3-SPST—Normally Open)	660	1.25	.75	306	1.25	.75
	Four makes (4-SPST—Normally Open)	880	1.60	.96	388	1.60	.96

Three Position Switches

	77 333-B		88 366-B	Single pole double throw, center off	77	\$0.90	\$0.54	333-B	\$0.85	\$0.51
	90 399-B		120 312-B	Two pole double throw, center off	88	1.25	.75	366-B	1.20	.72
				Three pole double throw, center off	90	1.60	.96	399-B	1.55	.93
				Four pole double throw, center off	120	2.00	1.20	312-B	1.95	1.17



SHORT PUSH-BUTTON SWITCHES—Non-Locking and Locking Types

Silver contacts for minimum resistance. High-quality nickel-silver springs. Bright cadmium-plated steel frame. Highest quality insulation used throughout. Mount in single $\frac{3}{8}$ " hole in panels up to $\frac{1}{2}$ ". Supplied with $\frac{1}{2}$ " polished black bakelite button and set-screw, one nickel-plated hexagonal mounting nut and washer.

Circuits	Contact Arrangement	Non-Locking Type	Locking Type	List Price	Net Price	Circuits	Contact Arrangement	Non-Locking Type	Locking Type	List Price	Net Price
	Single Make Contact	422-M	422-AM	\$0.90	\$0.54		Two Break Contacts	444-B	444-AB	\$1.20	\$0.72
	Single Break Contact	422-B	422-AB	\$0.90	\$0.54		Two Break-Make Contacts	666	666-A	\$1.50	\$0.90
	Single Break-Make Contact	433	433-A	\$1.00	\$0.60		Combination Break One and Make Two Contacts	555	555-A	\$1.50	\$0.78
	Two Make Contacts	444-M	444-AM	\$1.20	\$0.72		Two-Make Before-Break Contacts	676	676-A	\$1.65	\$0.99

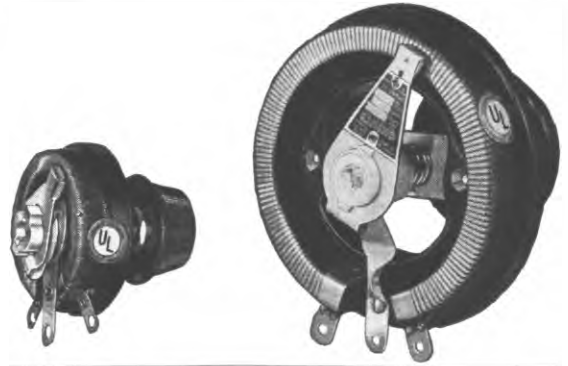
BE RIGHT WITH OHMITE*

RHEOSTATS
RESISTORS
SWITCHES
CHOKES

OHMITE RHEOSTATS

All-Porcelain—Vitreous-Enameled

The design and construction of these sturdy, compact Ohmite Rheostats insure permanently smooth, gradual, close control. The wire is wound over a porcelain core, bonded to porcelain base, and permanently locked in place by special Ohmite Vitreous Enamel. Nothing to smoke, char, shrink, or shift. Dissipates heat rapidly. Insulated shafts and bushings. Copper graphite contacts. Ratings are for "free air" use. Time-proved through long trouble-free service in countless installations the world over. Underwriters' Laboratories Listed.



MODEL "H" 25 Watt

Diameter 1 5/16". Depth behind panel 1 1/8"

Stock No.	Ohms	Max. Mils.	List Price	Stock No.	Ohms	Max. Mils.	List Price
0140	1	5,000	\$4.50	0152	125	445	\$4.00
0141	2	3,450	4.00	0153	175	375	4.00
0142	3	2,880	4.00	0154	250	315	4.00
0143	6	2,040	4.00	0155	350	267	4.00
0144	8	1,770	4.00	0156	500	222	4.00
0145	10	1,580	4.00	0157	750	173	4.00
0146	15	1,290	4.00	0158	1,000	155	4.50
0147	25	1,000	4.00	0159	1,500	129	4.50
0148	35	845	4.00	0160	2,500	100	4.50
0149	50	709	4.00	0161	3,500	84	4.75
0150	75	575	4.00	0162	5,000	70	4.75
0151	100	500	4.00				

MODEL "J" 50 Watt

Diameter 2 5/16". Depth behind panel 1 3/8"

Stock No.	Ohms	Max. Mils.	List Price	Stock No.	Ohms	Max. Mils.	List Price
0308	0.5	10,000	\$5.00	0321	150	575	\$4.50
0309	1	7,070	5.00	0322	225	470	4.50
0310	2	5,000	5.00	0323	300	405	4.50
0311	4	3,500	4.50	0324	500	315	4.50
0312	6	2,880	4.50	0325	800	250	4.75
0313	8	2,500	4.50	0326	1,000	220	4.75
0314	12	2,040	4.50	0327	1,600	176	4.75
0315	16	1,760	4.50	0328	2,500	140	4.75
0316	22	1,500	4.50	0329	3,500	119	5.00
0317	35	1,190	4.50	0330	5,000	100	5.00
0318	50	1,000	4.50	0331	8,000	79	5.00
0319	80	790	4.50	0332	10,000	70	5.00
0320	125	630	4.50				



OHMITE SPECIAL RHEOSTATS for Soldering Iron Control

Adjusts heat of the soldering iron or melting pot for best work and economical operation.

Wattage of Soldering Iron or Pot to be Controlled	Volts	Rheostat Control Stock No.	Cage Dimensions Diam.	Hgt.	List Price Each
40-65	115	SRC65	3 1/8"	2"	\$ 7.25
85-100	115	SRC100	3 1/8"	2"	7.25
120-150	115	SRC150	3 3/4"	2 3/8"	9.15
175-220	115	SRC220	3 3/4"	2 3/8"	10.00
300-350	115	SRC350	4 1/2"	2 3/8"	11.70
430-500	115	SRC500	7 1/2"	3 1/4"	17.00

MODEL "K" 100 Watt

Diameter 3 1/8". Depth behind panel 1 3/4"

Stock No.	Ohms	Max. Mils.	List Price	Stock No.	Ohms	Max. Mils.	List Price
0440	0.5	12,500	\$7.50	0452	200	707	\$7.00
0441	1	10,000	7.50	0453	300	575	7.00
0442	2	7,070	7.50	0454	400	500	7.00
0443	3	5,750	7.50	0455	500	445	7.00
0444	5	4,450	7.50	0456	750	365	7.00
0445	7.5	3,650	7.00	0457	1,000	315	7.50
0446	10	3,150	7.00	0458	1,500	258	7.50
0447	16	2,500	7.00	0459	2,000	224	7.50
0448	25	2,000	7.00	0460	2,500	200	7.50
0449	50	1,420	7.00	0461	5,000	141	8.00
0450	75	1,150	7.00	0462	7,500	115	8.50
0451	100	1,000	7.00	0463	10,000	100	9.00

MODEL "L" 150 Watt

Diameter 4". Depth behind panel 1 3/4"

Stock No.	Ohms	Max. Mils.	List Price	Stock No.	Ohms	Max. Mils.	List Price
0524	0.5	15,000	\$9.50	0537	150	1,000	\$9.00
0525	1	12,500	9.50	0538	200	865	9.00
0526	2	8,650	9.50	0539	250	775	9.00
0527	3	7,070	9.50	0540	350	655	9.00
0528	5	5,480	9.50	0541	500	548	9.00
0529	7.5	4,470	9.50	0542	750	447	9.50
0530	10	3,880	9.00	0543	1,250	346	9.50
0531	15	3,163	9.00	0544	1,800	288	10.00
0532	25	2,450	9.00	0545	2,250	259	10.00
0533	35	2,070	9.00	0546	3,000	224	10.00
0534	50	1,735	9.00	0547	4,500	182	10.50
0535	75	1,415	9.00	0548	7,500	141	11.00
0536	100	1,225	9.00	0549	10,000	122	12.00

MODEL "N" 300 Watt

Diameter 6". Depth behind panel 2 1/4"

Stock No.	Ohms	Max. Mils.	List Price	Stock No.	Ohms	Max. Mils.	List Price
0650	1	17,250	\$13.50	0661	100	1,730	\$13.50
0651	2	12,240	13.50	0662	150	1,410	13.50
0652	3	10,000	13.50	0663	200	1,220	13.50
0653	4	8,660	13.50	0664	300	1,000	13.50
0654	5	7,750	13.50	0665	400	866	13.50
0655	7.5	6,320	13.50	0666	700	655	13.50
0656	10	5,480	13.50	0667	900	578	13.50
0657	15	4,470	13.50	0668	1,200	500	13.50
0658	25	3,460	13.50	0669	1,500	449	13.50
0659	50	2,450	13.50	0670	1,750	414	13.50
0660	75	2,000	13.50	0671	2,500	346	13.50

OTHER OHMITE RHEOSTATS

Ohmite Rheostats are also available in Model G, 75 Watt; Model P, 225 Watt; Model R, 500 Watt; and Model U, 1,000 Watt units, in many resistance values. Special Rheostats with tapered windings, etc., can be supplied; also Special Rheostats for Model Train Control. Cages and other accessories also available.

For more complete information on OHMITE PRODUCTS, ask for Ohmite Catalog 17.

BE RIGHT WITH OHMITE

RHEOSTATS
RESISTORS
SWITCHES
CHOKES

Popular OHMITE "BROWN DEVIL" RESISTORS



High quality, small size, wire wound resistors ideal for voltage dropping, bias units, bleeders, etc. They're extra-sturdy, all-porcelain, vitreous enameled. They give time-proved protection against shock, vibration, heat and humidity. Their long record of continuous trouble-free service—their wide use in all climates of the world—prove their complete reliability and economy. All units have 1½" tinned wire leads.

10 Watt—1¼"x¾"						20 Watt—2"x½"					
Ohms	Mils.	Ohms	Mils.	Ohms	Mils.	Ohms	Mils.	Ohms	Mils.	Ohms	Mils.
1	3,150	350	169	6,000	36	5	2,000	700	169	2,750	85
2	2,230	400	158	7,000	33	10	1,415	750	163	3,000	81
3	1,825	450	149	7,500	32	25	895	800	158	3,500	75
4	1,580	500	141	8,000	31	50	633	850	153	4,000	70
5	1,415	600	129	8,500	30	75	517	1,000	141	4,500	66
7.5	1,155	700	119	10,000	24	100	448	1,200	129	5,000	63
10	1,000	750	115	11,000	22	150	365	1,250	126	6,000	57
12	910	800	111	12,000	20	200	316	1,500	115	7,000	53
15	815	900	105	12,500	20	250	283	1,750	107	7,500	51
20	707	1,000	100	13,500	19	300	258	1,850	104	8,000	50
25	630	1,100	95	14,300	18	350	239	2,000	100	10,000	43
30	575	1,200	91	15,000	18	400	223	2,250	94	12,500	39
35	535	1,250	89	16,000	17	500	200	2,400	91	15,000	33
40	500	1,500	79	17,500	17	650	175	2,500	89		
50	447	1,750	74	18,000	16						
75	365	2,000	69	20,000	15						
100	315	2,250	64	22,500	15	20,000	25	35,000	15	45,000	12
125	283	2,500	61	25,000	14	25,000	22	40,000	13	50,000	11
150	258	3,000	56	*30,000	8	30,000	19				
200	223	3,500	51	*35,000	7						
225	217	4,000	47	*40,000	7						
250	200	4,500	44	*45,000	6						
300	182	5,000	40	*50,000	6						

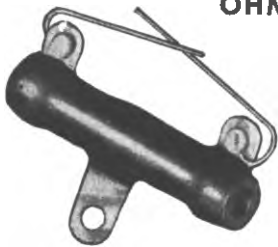
List Price, any 10 watt unit above \$0.40

List Price, any 20 watt unit above \$0.65

*The units marked with an asterisk are coated with a low temperature enamel.

OHMITE CENTER-TAPPED RESISTORS

Compact, Accurate, Convenient



"Wirewatt" and "Brown Devil" center-tapped resistors especially designed for use across radio transmitter tube filaments to provide an electrical center for the grid and plate returns. Should be connected as closely as possible to the tube socket. Center tap accurate to plus or minus 1%.

"WIREWATT" 1 Watt				"BROWN DEVIL" 10 Watt			
Res. Ohms	For Heater or Filament Voltage up to	Max. Volts	List Price	Res. Ohms	For Heater or Filament Voltage up to	Max. Volts	List Price
10	2.5	3.15	\$0.35	10	6.3	10.0	\$0.50
15	2.5	3.85	.35	15	6.3	12.5	.50
*20	2.5	4.4	.35	*20	7.5	14.0	.50
25	2.5	5.0	.35	25	7.5	15.5	.50
30	2.5	5.3	.35	30	7.5	17.2	.50
40	2.5	6.3	.35	40	10.0	20.0	.50
*50	5.0	7.0	.35	*50	10.0	22.3	.50
75	5.0	8.5	.35	75	10.0	27.3	.50
*100	6.3	10.0	.35	*100	12.0	31.5	.50
200	6.3	14.0	.35	200	12.0	44.5	.50

*Shows most popular sizes.

OHMITE "WIREWATT"



1 Watt wire-wound Resistor

Wire-wound on porcelain and insulated with low temperature enamel. Ends of the wire are mechanically locked and then brazed to terminal lugs to insure freedom from noise. 1½" tinned wire leads. RMA color coded, and labeled with the resistance. Size 1¼"x¼".

Ohms	Mils.	Volts	Ohms	Mils.	Volts
100	100	10	2,250	21	46
125	89	11	2,500	20	50
150	81	12	3,000	18	54
200	70	14	3,500	16	56
250	63	15	4,000	15	60
300	57	17	4,500	14	63
350	53	18	5,000	14	70
400	50	20	6,000	12	72
500	44	22	7,000	11	77
600	40	24	7,500	11	82
700	37	26	8,000	11	88
750	36	27	9,000	10	90
800	35	28	10,000	10	100
900	33	29	12,500	9	110
1,000	31	31	15,000	8	120
1,100	30	33	16,000	7	112
1,200	28	33	17,500	7	122
1,250	28	35	18,000	7	126
1,500	25	37	20,000	7	140
1,750	23	40	22,500	6	135
2,000	22	44	25,000	6	150

List Price \$0.25



OHMITE "CORDOHM"

Line Cord Resistors

Replaces internal voltage dropping resistors in AC-DC radio sets. A resistance element is incorporated in the line cord.

Stock No.	Voltage Drop	Ohms
C-350	12.0 to 17.0	350
C-330	18.0 to 24.0	330
C-290	25.0 to 31.5	290
C-250	32.0 to 44.5	250
C-220	45.0 to 62.0	220
C-180	53.0 to 61.0	180
C-160	62.0 to 68.9	160
C-135	69.0 to 75.2	135

List Price, any above value \$0.75

C-165-P	For 5 tube sets (3 x 6.3 + 105-Tap 2 x 25) 0.15 A. pilot lamp..	at 22.5
C-187-P	For 4 tube sets (2 x 6.3 + 187.5-Tap 2 x 25) 0.15A. pilot lamp..	at 22.5
C-190-P	For 4 tube sets (2 x 6.3 + 190-Tap 2 x 25) 0.25A. pilot lamp..	at 40

List Price, any above value \$1.00

X-320 Line Drop Cord, 220 Volts to 110 Volts at 0.36 Amps. 320 Ohms—\$1.50

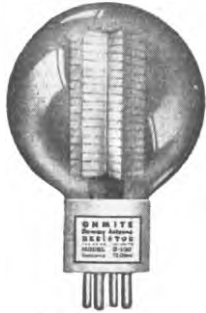
For more complete information on OHMITE PRODUCTS, ask for Ohmite Catalog 17.

BE RIGHT WITH OHMITE

RHEOSTATS
RESISTORS
SWITCHES
CHOKES

OHMITE DUMMY ANTENNA

To Check R.F. Power and Tune Up to Peak Efficiency



For the first time, a compact, high-wattage resistor suitable for high radio-frequency measurements. Non-inductive, non-capacitive, constant in resistance. Provides a simple, accurate, direct means of measuring R. F. power in all transmitter stages for the purpose of tuning up to maximum efficiency. Used to determine transmission line losses—to check line to antenna impedance match—to keep signal off the air while tuning up—to eliminate unnecessary interference—and generally useful

as a non-inductive resistor in other R. F. Circuits. Space-wound resistance element of unusual design, mounted in a glass bulb, evacuated and gas filled. Four-prong steatite standard tube base. Several units can be connected in various ways for higher wattages.

Model D-100. 100 Watt rating. In popular 73 ohm and 600 ohm resistance values. Also in 13, 18, 34, 64, 100, 146, 219, 300, 400, 500 ohm values. Diameter 3 1/8". Height (from bottom of base) 4 3/8".

List Price.....\$5.50

Model D-250. 250 Watt rating. In 73 ohm and 600 ohm stock resistances. Diameter of bulb 2 1/2". Height 9" (from bottom of base).

List Price.....\$11.00

Non-Inductive Vitreous-Enameled Resistors also available. See Ohmite Catalog 17.

OHMITE R.F. PLATE CHOKES

Built to Carry 1,000 M.A.



High frequency solenoid chokes designed to avoid fundamental or harmonic resonance in the amateur bands. Single-layer wound on low power factor steatite core—insulated and protected by moisture-proof coating. No portion can resonate independently of any other portion. Designed also to prohibit breakdown from high R. F. potentials. Ample space allowed at the ends to prevent flashover to ground. Non-magnetic mounting brackets furnished with the three larger sizes. Rated at 1000 milliamperes. May be used in diathermy and therapeutic equipment as well as in radio transmitters.

Stock No.	Amateur Band, Meters	Micro-henries	Current Rating (D.C.)	D.C. Resistance Ohms	Lgth.	Tube Dia.	List Price
Z-1	5	5.4	1,000 M.A.	0.85	1 3/4"	1 1/4"	\$0.25
Z-2	10 and 20	35	1,000 M.A.	2	3"	1 1/8"	.75
Z-3	20 and 40	95	1,000 M.A.	5	6"	1 1/8"	1.10
Z-4	20, 40, 80 and 160	220	1,000 M.A.	9	6 1/2"	3/4"	1.50

OHMITE POWER LINE CHOKES



Prevents high-frequency currents of radio transmitters, diathermy and therapeutic equipment from going out over the power lines and interfering with nearby radio receiving sets. Used as a filter in connection with two grounding condensers of 0.1 microfarad capacity each. The Z-20 Choke is also used at radio receivers to keep out interference. All chokes consist of two single-layer windings on a single ceramic core—insulated and protected by moisture-proof coating. Recommended for use in suppressing radio (not audio) frequency interference.

Stock No.	Micro-henries	Current Rating	Total D.C. Resistance Ohms	Lgth.	Tube Dia.	List Price
Z-20	13.5	5 Amperes	0.15	4"	1 1/8"	\$1.50
Z-21	14	10 Amperes	0.07	6 1/2"	3/4"	2.50
Z-22	16.5	20 Amperes	0.045	8 1/2"	1 1/8"	3.60

RITEOHM "81"

Precision Resistors



High quality, 1% accurate, 1 watt, non-inductive, pie-wound Precision Resistors for voltmeter multipliers, laboratory equipment, radio and electrical test sets, attenuation pads, etc. Special Ohmite vacuum-type impregnation provides complete protection. Size 9/16" x 1 1/4". Equipped with soldering lugs and threaded stud terminals.

Available in many stock resistance values from 0.1 ohm to 2 megohms. For complete listing, see Ohmite Catalog 17. (Also available in closer tolerances.)

Riteohm "71" Vitreous-Enameled Precision Resistors and Riteohm Series "90" Hermetically-Glass-Sealed Precision Resistors are also available.

OHMITE PARASITIC SUPPRESSOR



Designed to prevent unwanted ultra-high-frequency parasitic oscillations which occur in the plate and grid leads of push-pull and parallel tube circuits. The parasitics are suppressed, without loss of driving power.

The P-300 is a non-inductive, vitreous-enameled resistor combined with a choke into one small integral unit. Only 1 1/4" long overall and 5/8" diameter.

Model P-300 List Price.....\$1.50

OHMITE BAND SWITCH

For Rigs up to 1 K.W.

Instant, easy change from one frequency to another by front-of-panel knob control, with really low-loss efficiency. Band changing may be provided in all stages of the transmitter, and "ganged" for single-control. Low-loss porcelain construction, vitreous-enameled.

Model BC-3. Complete with Knob and Mounting Bracket.

List Price.....\$3.00



For more complete information on OHMITE PRODUCTS, ask for Ohmite Catalog 17.

DEPENDABLE MUTER PRODUCTS

MORE WATTS
PER DOLLAR



MORE WATTS
PER INCH

5 WATT ZIPOHM WIRE WOUND REPLACEMENT RESISTORS



Size 1 1/2" x 1/2"

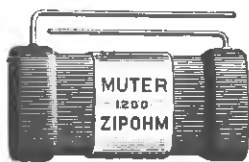
Zipohms are flat and fit into tight places easily. The 1 1/2" tinned leads are long enough for unusual installations. Accuracy is 5% and each unit is impregnated with a protective high temperature electric cement.

Number	Ohms	Number	Ohms	Number	Ohms	Number	Ohms
910	100	922	800	934	3500	944	12,500
911	125	923	900	935	4000	950	15,000
912	150	924	1000	936	4500	951	16,000
913	200	925	1100	937	5000	952	17,500
914	250	926	1200	938	6000	953	18,000
915	300	927	1250	939	7000	954	20,000
916	350	928	1500	940	7500	955	22,500
917	400	929	1750	941	8000	956	25,000
918	500	930	2000	942	9000		
919	600	931	2250	943	10,000		
920	700	932	2500				
921	750	933	3000				

List Price of Above Units—25c

NOTE
Size of the above
8 units is 1/2"x2"

10 WATT ZIPOHM WIRE WOUND REPLACEMENT RESISTORS



Size 1 1/2" x 3/4"

Number	Ohms	Number	Ohms	Number	Ohms	Number	Ohms
1005	5	1033	200	1044	1000	1056	4500
1010	10	1034	250	1046	1200	1057	5000
1020	20	1035	300	1048	1500	1058	6000
1025	50	1036	350	1050	2000	1060	7500
1027	75	1037	400	1052	2500	1063	10,000
1030	100	1038	500	1053	3000	1064	12,000
1031	125	1039	600	1054	3500	1067	15,000
1032	150	1041	750	1055	4000	1071	20,000
						1073	25,000

List Price of Above Units—40c

ZIPOHM SPECIAL RESISTOR KIT FOR SERVICEMEN

\$15.45 Value for \$11.75

57 Zipohms in 27 different varieties



The large clearly marked aluminum tags make it possible to quickly select the desired resistor value. Kit assortment is supplied in the compact, convenient box shown above. Size of box, 8 1/4 x 3 3/4 x 2 1/2, weight, 1 lb.

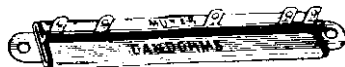
5 Watt		5 Watt		5 Watt		10 Watt	
	Ohms		Ohms		Ohms		Ohms
2	100	4	750	4	5,000		
1	150	5	1,000	1	6,000	2	10,000
2	200	1	1,250	1	7,500		
1	250	3	1,500	2	10,000	2	15,000
2	300	4	2,000	1	15,000		
1	400	4	2,500	1	20,000	2	20,000
4	500	2	3,500	1	25,000	2	25,000
1	600	1	4,000	1			

The above units contained in the Zipohm Kit have been very carefully selected from frequency charts and will cover 80% of average replacement requirements for wire wound resistors. Other wire wound resistor values not contained in the Kit are listed above.

Stock No. 1075—Zipohm Resistor Kit

\$11.75

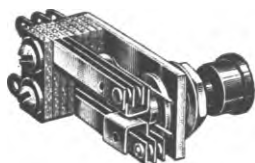
ORIGINAL EQUIPMENT CANDOHM REPLACEMENT RESISTORS



Candohm patented wire-wound resistors and Voltage Dividers are found in practically all radio sets today. Make replacements with genuine Muter units exactly the same as supplied manufacturers originally. LOOK FOR THE SET MANUFACTURERS' PART NUMBER STAMPED IN THE METAL CASE, which makes it easy to order. We can supply any Candohm, give name of set and manufacturer's part number. Do not order by model. If unable to locate part number, send actual unit to be replaced.

DEPENDABLE MUTER PRODUCTS

MUTER PUSH BUTTON SWITCHES NON-LOCKING TYPE WITH BAKELITE BUTTON

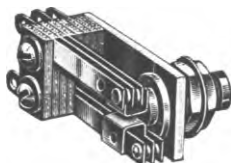


Size $1\frac{7}{8}$ " x $\frac{3}{4}$ " x $1\frac{5}{16}$ "
Bakelite buttons are removable
without loosening set screw.

Stock No.	Description	List
4500	Single Pole Make Contact	\$.90
4501	Single Pole Break Contact	.90
4502	Single Pole Double Throw	1.00
4503	2 Pole—Make 2 Contacts	1.20
4504	2 Pole—Break 2 Contacts	1.20
4505	2 Pole—Double Throw	1.50
4506	2 Pole—Make 2—Break 1	1.30
4507	Double Throw—Make Before Break	1.65

NOTE.—To remove the bakelite button, merely rotate through one-half a turn and at the same time pull. To re-assemble, push in and at the same time rotate 180°. The button remains locked in position, held by a new unique spring design.

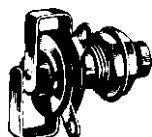
NON-LOCKING TYPE WITH METAL BUTTON



Size $1\frac{7}{8}$ " x $\frac{3}{4}$ " x $1\frac{1}{8}$ "
Switches have built-in lifters,
eliminating trouble from loose
parts.

Stock No.	Description	List
4520	Single Pole Make Contact	\$.90
4521	Single Pole Break Contact	.90
4522	Single Pole Double Throw	1.00
4523	2 Pole—Make 2 Contacts	1.20
4524	2 Pole—Break 2 Contacts	1.20
4525	2 Pole—Double Throw	1.50
4526	2 Pole—Make 2—Break 1	1.30
4527	Double Throw—Make Before Break	1.65

NOTE.—This series of Muter Push Button Switches are equipped with permanent lifters which are positive acting and cannot be removed. All metal parts are plated.



Size $1\frac{1}{8}$ " x $\frac{7}{8}$ " x $1\frac{1}{4}$ "
Compact switch which can be
used when back of panel space
is very limited.

SINGLE POLE PUSH BUTTON SWITCH

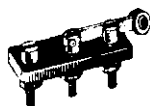
Stock No.	Description	List
4540	Single Pole Make Contact Non-Locking Type	70c

SPECIAL FEATURES.—A rugged compact switch using less space back of panel. Equipped with phosphor bronze springs, easily accessible solder lugs and metal push button insulated from contacts.

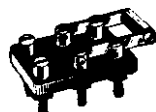
Midget Knife Throw Switches



Single Pole Single Throw
Base $1\frac{1}{4}$ " long, $\frac{1}{2}$ " wide.
Jobbers' standard quantity 50.
Weight per 100 is 2 lbs.
Stock No. 1900.....List Price \$0.20

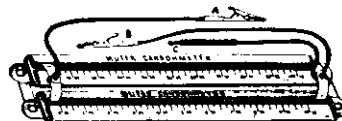


Single Pole Double Throw
Base $1\frac{1}{4}$ " long, $\frac{1}{2}$ " wide.
Jobbers' standard quantity 50.
Weight per 100 is 2½ lbs.
Stock No. 1925.....List Price \$0.30



Double Pole Double Throw
Base $1\frac{1}{4}$ " long, 1" wide.
Jobbers' standard quantity 25.
Weight per 100 is 5 lbs.
Stock No. 1950.....List Price \$0.50

Candohmeter Resistance Indicators



Description—An accurate uniform wire-wound resistor insulated from and enclosed in metal housing with exposed slot permitting contact with resistor. Furnished with insulated handle test prods. Has two scales, the upper one to determine approximate value, the lower to permit more accurate reading within that range. Serves to determine proper resistance to replace a defective resistor; useful as a voltmeter multiplier to secure high voltage readings with low-range voltmeter; also serves as calibrated resistor for use in experimental work. Packed in individual boxes $1\frac{1}{4}$ " x 1 " x $7\frac{1}{2}$ " with complete instructions for use. Approximate weight 7 oz. Jobbers' standard quantity 10.

Stock No.	Range in Ohms	List Price
1700	0 to 10,000 and 0 to 100,000	\$2.00
1701	0 to 100 and 0 to 1,000	1.75

DEPENDABLE MUTER PRODUCTS

MUTER TUBULAR PAPER CONDENSERS

Muter By-Pass Condensers are non-inductively wound to full capacity and to withstand the full rated voltage plus a liberal safety factor. These condensers are encased in double, impregnated, moisture-proof, cardboard containers with self supporting 2" tinned wire leads. Muter Condensers are vacuum impregnated and are unaffected by humidity. The unique construction insures no leakage. Muter By-Pass Condensers are most efficient, are thoroughly tested and made of the highest quality raw materials obtainable. Jobbers standard quantity 10.



200 WORKING VOLT CONDENSERS

Number	Mfd.	List
2016	.05	\$.15
2018	.1	.20
2019	.25	.25
2020	.5	.35
2021	1.	.50

400 WORKING VOLT CONDENSERS

Number	Mfd.	List
2030	.001	\$.15
2031	.002	.15
2032	.003	.15
2034	.004	.15
2035	.005	.15
2036	.006	.15
2037	.01	.15
2038	.02	.15
2041	.05	.15
2043	.1	.20
2044	.25	.25
2045	.5	.50

600 WORKING VOLT CONDENSERS

Number	Mfd.	List
2055	.001	\$.15
2056	.002	.15
2057	.003	.15
2058	.004	.15
2059	.005	.15
2060	.006	.15
2061	.008	.15
2062	.01	.15
2063	.02	.15

600 WORKING VOLT CONDENSERS

—Concluded

Number	Mfd.	List
2064	.03	\$.20
2065	.04	.20
2066	.05	.20
2067	.06	.20
2068	.1	.25
2069	.25	.35
2070	.5	.50

MUTER ELECTRIC RAZOR INTERFERENCE FILTER



Size 1 1/8" x 2 1/2"

Muter Interference Filter is especially designed to eliminate radio interference from electric razors and small electrical appliances. Easily installed, by simply plugging the razor into the Filter and the Filter into the wall outlet. This device is ideal for reducing interference caused by vacuum cleaners, fans, electric mixers, etc. For use as a line noise filter, plug radio set into this unit and plug this unit into outlet. Weight 1 1/2 oz. Jobbers standard quantity 24.

Stock No. 2755—Small Appliance Interference Filter..... List 50c

1 WATT TUBE OHM WIRE WOUND REPLACEMENT RESISTORS

Tubeohms are a new development in a 1 watt wire wound resistor. The winding is encased in an impregnated tube which effectively seals the resistance against moisture. Equipped with adjustable leads, Tubeohms are easier to handle, take less room and are low in price. Jobbers standard quantity 10.



Size 3/8" x 1 1/2"

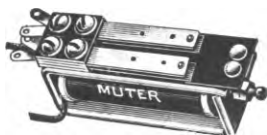
Tubeohm values are clearly and permanently marked

Rating 1 Watt

Number	Ohms	Number	Ohms	Number	Ohms	Number	Ohms
800	100	807	400	814	1000	821	2250
801	125	808	500	815	1100	822	2500
802	150	809	600	816	1200	823	3000
803	200	810	700	817	1250	824	3500
804	250	811	750	818	1500	825	4000
805	300	812	800	819	1750		
806	350	813	900	820	2000		

List Price of Above Units—15c

MUTER TRANSMITTING AND SENSITIVE RELAYS



Size 3 1/4" Long x 3/4" Wide

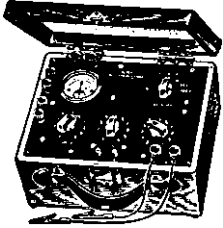
Muter Relays are entirely new in design, dependable in performance and built to withstand hard usage. The 110 volt A.C. Double Pole Double Throw and Single Pole Single Throw Relays provide a means of rapidly switching from receiving to transmitting. Large pure silver contacts are used throughout. Muter sensitive Relays are ideal for amplifier circuits and photo electric cell equipment.

Stock No.	Description	List
4550	Double Pole Double Throw 110 Volt AC.....	\$6.00
4551	Single Pole Single Throw 110 Volt AC.....	5.00
4552	1000 ohm Coil Half Wave Rectified DC.....	5.00
4553	2500 ohm Coil Half Wave Rectified DC.....	5.00
4554	5000 ohm Coil 110 Volt AC 2.5 Amp. Contacts.....	5.00
4555	10000 ohm Coil 110 Volt DC 1.5 Amp. Contacts.....	5.00

DEPENDABLE MUTER PRODUCTS

MUTER RESISTANCE BRIDGE AND DECADE BOXES

FOR SERVICEMEN, LABORATORIES AND PRODUCTION TESTING



Size 9 3/8" x 8 1/4" x 5 3/8"
Shipping Weight 8 lbs.

Muter Certified Resistance Bridge is contained in a solid walnut case with nicked brass hardware and complete with internal battery. Ratio arm resistors are accurate to 1/4 of 1% and rheostat resistors are within 1/2 of 1%, providing overall accuracy of 1% in intermediate steps and 5% at the extremes.



Size 9" x 4 3/8" x 3 1/2"
Shipping Weight 2 lbs. 10 oz.

Muter Decade Resistance Boxes are accurate within 1/2 of 1% and are for use with D. C. or audio frequency A. C. Each section will dissipate 1/2 watt.

Stock No.	Description	List Price
1200	.01 ohm to 11 Megohm Resistance Bridge	\$55.00
1275	111 ohm Decade Box in steps of .1 ohms	19.50
1276	1,100 ohm Decade Box in steps of 1 ohms	19.50
1277	11,100 ohm Decade Box in steps of 10 ohms	22.50
1278	111,000 ohm Decade Box in steps of 100 ohms	28.00

MUTER SPIRASHIELD



Description—The perfect shield for either Radio or Audio frequencies. May be cut to any desired length and regular hookup wire inserted. Quick and easy to handle, makes an extremely neat job at a low cost. Thoroughly tinned for soldering quickly at any point. Supplied in three standard sizes 1/8", 3/16" and 1/4" inside diameter in six foot lengths. Approximate weight per six foot length 3 1/2 oz. Jobbers standard quantity 12.

Stock Number	Inside Diameter	List Price Six Foot Lengths
444	1/4" ID	\$1.20 ea.
446	3/16" ID	.90 ea.
448	1/8" ID	.60 ea.

INSULATED TIE TERMINAL



Description—A single terminal entirely insulated from the mounting lug and tested at 1000 volts A.C. Very convenient for tying three or four leads together. Size 1/2" x 3/4". Weight per 100 is 8 oz.
Stock No. 601—Tie Terminal, per 100 \$5.00

MANUFACTURERS TYPE SOLDERING LUG

Actual Size

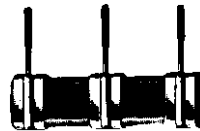


Easy Soldering

Description—A most convenient soldering lug used extensively by manufacturers and excellently adapted for service work. Weight per 100-1 oz., 500-8oz., 1000-14 oz.

Stock No. 475 —(Per package of 100)25c
Stock No. 475A—(Per package of 500) \$1.00
Stock No. 475B—(Per package of 1000) 1.75

CENTER TAP RESISTORS



Size 1 1/2" x 1/2"
Dissipates 2 watts.

Muter wire wound center tap resistors are particularly adaptable for use in filament, vibrator and hum balancing circuits. For convenience these units are supplied with 1 1/2 inch adjustable leads as illustrated. Jobbers standard quantity 10.

Stock No.	Ohms	List
990	10	\$2.00
992	20	.20
994	40	.20
996	60	.20
998	80	.20
999	100	.20

DEPENDABLE MUTER PRODUCTS

BALLAST RESISTOR QUICK REFERENCE CHART



THE BALLAST RESISTOR CHART below shows the manufacturers' number first and is conveniently subdivided for easy reference. You can instantly locate the Ballast Resistor desired and order by the Muter catalog stock number. The Cross-Reference Guide on the opposite side is numerically arranged according to Muter catalog stock numbers following which are the various manufacturers' numbers each catalog number will replace. This is most valuable in keeping stock down to a minimum and yet giving maximum service. All Ballast Resistors are individually boxed and clearly stamped with numbers.

LIST PRICE OF TYPE ILLUSTRATED..... **80c**

Mfrs. Number	Catalog Number	Mfrs. Number	Catalog Number	Mfrs. Number	Catalog Number	Mfrs. Number	Catalog Number	Mfrs. Number	Catalog Number	Mfrs. Number	Catalog Number	Mfrs. Number	Catalog Number
NUMBERS		0 to 99 PREFIX		110 to 199 PREFIX		BL and BM PREFIX		K PREFIX		KZ PREFIX		LX PREFIX	
6.125	5587	(Cont'd)		(Cont'd)		BM36C 5520		(Cont'd)		KZ49B. 5508		LX42B. 5601	
6.126	5588	49B2 5596		185L44. 5616		BM42C 5521		K60C 5648		KZ49C. 5507		LX42C 5602	
6.129	5553	50A2 5577		185R4. 5612		BM49B 5522		K67B 5537				LX42D 5603	
6.135	5563	50A2MG. 5507		185R8. 5513		BM49C 5523		K74B 5579				LX49B 5606	
18	5501	50B2 5512		185R44. 5617		BM55B 5524		K74C 5538				LX49C 5607	
32	5586	50B2MG. 5508				BM80B 5525		K78B 5539				LX49D 5608	
69.2033	5550	50X3T 5513						K80B 5539				LX55B 5614	
69.2037	5548	55A2 5598						K80F 5636				LX55C 5615	
100-37	5502	55B2 5584						K80H 5637				LX55D 5616	
100-38	5503	55H 5613						K87B 5540					
115.41	5623	55LB 5555		200 and up PREFIX		K PREFIX		K90B 5574		L PREFIX			
115.42	5658	60R30 5600		200R 5570		K17BJ 5576		K90F 5638		L36B 5604			
115.46	5643	60R30G 5600		245A 5571		K17E 5650		K87A 5541		L36C 5609			
610-10	5526	95K2 5530		245KB 5618		K23AJ 5653		K92A 5541		L36D 5589			
3271	5504			245KC 5619		K24C 5527		K92B 5542		L36DJ 5588			
5568	5568			250A 5571		K36B 5624		K95B 5542		L40C 5544			
5569	5569			250A 5571		K36C 5625				L40S2 5546			
5573	5573			250KB 5618		K36D 5626				L42B 5547			
5585	5585			250KC 5619		K36E 5627				L42C 5548			
8593	5563			250R 5571		K36E1 5628				L42CJ 5503			
8598	5555			250R4 5618		K38B2 5528				L42CS4 5575			
8600	5582			250R8 5619		K40B 5629				L42D 5549			
8601	5583			300R4 5620		K40X 5590		KX PREFIX		L42DJ 5587			
8664	5621			320R4 5572		K40Y 5510		KX23B 5600		L42E 5591			
16032	5648	100 to 199 PREFIX				K42B 5629		KX42B 5590		L49B 5550			
16036	5622	135K1 5533		A PREFIX		K42C 5530		KX42C 5510		L49BJ 5551			
26871	5505	140KB 5590		A16037 5650		K42C 5530		KX42D 5605		L49C 5552			
		140KC 5510		A16040 5534		K42D 5630		KX49B 5512		L49CJ 5502			
		140L4 5601				K42D 5630		KX49C 5577		L49D 5567			
		140L8 5602				K42E 5531		KX49D 5610		L49DJ 5553			
		140L44 5603				K42E 5531		KX55B 5612		L49E 5594			
		140R4 5590				K42E1 5632		KX55C 5513		L49E1 5554			
		140R8 5510				K43B 5532		KX55D 5617		L55B 5555			
		140R44 5605				K49AJ 5581		KX74A 5571		L55C 5556			
		160R4 5578				K49B 5533		KX74B 5618		L55CP 5611			
		165KB 5512				K49C 5534		KX74C 5619		L55CPR 5611			
		165KC 5577				K49D 5633				L55D 5597			
		165L4 5606				K49E 5634				L55E 5639			
		165L8 5607				K49E1 5635				L55E1 5621			
		165L44 5608				K49X 5512				L55S1 5557			
		165LB 5606		BK PREFIX		K49Y 5577				L55S2 5558			
		165LC 5607		BK23B 5514		K52H 5613				L66B 5580			
		165R4 5512		BK32D 5658		K55B 5535				L80B 5561			
		165R8 5577		BK36B 5515		K55C 5536		KY PREFIX		L495.5E 5594			
		165R44 5610		BK42C 5516		K55CP 5529		KY42B 5592		L55.5C 5556			
		185KB 5612		BK42D 5517		K55CPR 5529		KY42C 5593					
		185KC 5513		BK49B 5623		K55D 5644		KY42D 5543					
		185L8 5615		BK49D 5518		K55E 5645		KY49B 5595					
		185LB 5614		BK52H 5586		K55E1 5646		KY49C 5596					
		185LC 5615		BK55B 5519		K55H 5613		KY55B 5598					
		185L4 5614		BK55D 5652				KY55C 5584					
				BK62B 5647									

See Reverse Side for Ballast Resistor Cross Reference Guide and Special Muter Ballast Resistor Replacement Kits

DEPENDABLE MUTER PRODUCTS



BALLAST RESISTOR CROSS-REFERENCE GUIDE

THE CROSS-REFERENCE GUIDE below is arranged numerically according to Muter catalog stock numbers by which all Ballast Resistors should be ordered. It simplifies ordering and shows the various manufacturers' number each Muter catalog number will replace. This catalog contains most all of the Ballast Resistors commonly used. If unable to locate in our catalog the Ballast Resistor needing replacement, return the burnt out unit to us giving, if possible, name and model of set, type and number of radio tubes, number of pilot lights and color of bead filament.

Catalog Number	Mfrs. Number	Catalog Number	Mfrs. Number	Catalog Number	Mfrs. Number	Catalog Number	Mfrs. Number	Catalog Number	Mfrs. Number	Catalog Number	Mfrs. Number	Catalog Number	Mfrs. Number
5500	3MZ-419	5522	BM49B		2UR224	5575	L42CS4		L495.5E	5613	55H	5632	K42E1
5501	18	5523	BM49C		69.2033	5576	K17BJ	5595	49A2		K52H	5633	K49D
5502	100-37	5524	BM55B	5551	L49BJ	5577	KX49C		KY49B		K55H	5634	K49E
	L49CJ	5525	BM80B	5552	L49C		50A2	5596	49B2	5614	185L4	5635	K49E1
5503	100-38	5526	610-10	5553	L49DJ		165R8		KY49C		185LB	5636	K80F
	L42CJ	5527	K24C		3ER248		K49Y	5597	L55D		LX55B	5637	K80H
5504	3271	5528	K38B2		6.129		165KC	5598	55A2	5615	185L8	5638	K90F
5505	26871	5529	K55CP	5554	L49E1		6B		KY55B		185LC	5639	L55E
5506	42HA		K55CPR		P27287	5578	160R4	5600	60R30		LX55C	5640	M42H
5507	50A2MG	5530	95K2	5555	L55B	5579	K74B		60R30G	5616	185L44		M42HG
	KZ49C		K42C		2VR215	5580	L66B		KX23B		LX55D	5641	M52H
5508	50B2MG	5531	K42E		8598	5581	K49AJ	5601	140L4	5617	185R44	5642	M55E
	KZ49B	5532	K43B		55LB	5582	8600		LX42B		KX55D	5643	115.46
5510	40A2	5533	135K1	5556	L555.5C	5583	8601	5602	140L8	5618	245KB	5644	K55D
	KX42C		K49B		L55C		M55E1		LX42C		250KB	5645	K55E
	140R8	5534	A16040	5557	L55S1	5584	55B2	5603	140L44		250R4	5646	K55E1
	K40Y		K49C	5558	L55S2		KY55C		LX42D		KX74B	5647	BK62B
	140KC	5535	K55B	5559	L80B	5585	5585	5604	L36B	5619	245KC	5648	16032
5512	165R4	5536	K55C	5562	M42B	5586	32	5605	140R44		250KC		K60C
	50B2	5537	K67B	5563	M49B		BK52H		KX42D		250R8	5649	M61B
	KX49B	5538	K74C		8593	5587	6.125	5606	165L4		KX74C	5650	K17E
	K49X	5539	K80B	5564	W42520		L42DJ		165LB	5620	300R4		A16037
	5B		K78B	5565	W43506	5588	6.126		LX49B	5621	L55E1	5651	M36H
	165KB	5540	K87B	5566	W44338		L36DJ	5607	165L8		8664	5652	BK55D
5513	185KC	5541	K92A	5567	3CR241	5589	L36D		165LC	5622	M49C	5653	K23AJ
	50X3T	5542	K95B		L49D	5590	40B2		LX49C		16036		6.135
	185R8		K92B	5568	5568		140KB	5608	165L44	5623	BK49B	5654	M80HG
	KX55C	5543	KY42D	5569	5569		140R4		LX49D		115.41		M80H
5514	BK23B		2LR212	5570	200R		K40X	5609	L36C	5624	K36B	5655	M55H
5515	BK38B	5544	L40C	5571	250R		KX42B	5610	165R44	5625	K36C		M55HG
5516	BK42C	5546	L40S2		245A	5591	L42E		KX49D	5626	K36D	5656	M49H
5517	BK42D	5547	L42B		250A	5592	KY42B	5611	L55CP	5627	K36E		M49HG
5518	BK49D	5548	L42C		KX74A		42A2		L55CPR	5628	K36E1	5657	M55B
5519	BK55B		69.2037	5572	320R4	5593	42B2	5612	185KB	5629	K40B	5658	BK32D
5520	BM36C	5549	L42D	5573	5573		KY42C		185R4		K42B		115.42
5521	BM42C	5550	L49B	5574	K90B	5594	L49E		KX55B	5630	K42D		

MUTER BALLAST RESISTOR REPLACEMENT KIT

MUTER BALLAST RESISTOR REPLACEMENT KIT contains ballast resistors which occur with the greatest frequency in nationally distributed sets. While the assortment will be found correct for most localities, obviously set distribution varies in certain territories. This can be adjusted by ordering additional ballast resistors from the replacement guide to compensate or making up a special order according to the territorial requirements. Weight 1 lb. 4 oz.

CONTAINS 16 TUBES IN 12 VARIETIES

- | | | | |
|------------|------------|------------|------------|
| 1—No. 5512 | 2—No. 5536 | 1—No. 5548 | 1—No. 5555 |
| 1—No. 5518 | 1—No. 5543 | 3—No. 5550 | 1—No. 5519 |
| 2—No. 5534 | 1—No. 5547 | 1—No. 5552 | 1—No. 5567 |

Stock No. 5599—Above 16 Ballast Resistor Replacement Kit.....LIST \$12.80

ATLAS WIRE WOUND-TUBULAR RESISTORS



ATLAS HEAVY DUTY ADJUSTABLE VOLTAGE DIVIDERS S-I-X OUTSTANDING REASONS W-H-Y

YOU GET FAR MORE FOR YOUR MONEY WHEN YOU BUY ATLAS VARIABLE RESISTORS:

- 1—FULLY PACKED WIRE-WOUND—NOT SPACE-WOUND.
- 2—HEAVIER WIRE AND MORE OF IT—FULL SAFE WATTAGE RATING.
- 3—HEAVY DUTY CHROME-OXIDE COATING—SAFELY DISSIPATING HIGH HEAT.
- 4—FROM ONE TO SIX BANDS SUPPLIED FREE WITH EVERY RESISTOR—EFFECTING A CONSIDERABLE SAVING.
- 5—ACCURATELY WOUND RESISTANCE VALUES—WELL WITHIN 5% TOLERANCE.
- 6—LARGE, OVERSIZE NON-HYGROSCOPIC TUBING—AFFORDING PLENTY OF AREA FOR HEAT DISSIPATION.

All Adjustable Resistors
are Supplied with
Mounting Brackets Attached



IMPORTANT

Do not order values above
maximum ohmage listed

7 1/2 Watts—Size 5 1/4" x 3 1/4"
COATED ADJUSTABLE TYPE

10 to 200 WATTS

Type	Watts	Dimensions	Bands	Ohms	List	Type	Watts	Dimensions	Bands	Ohms	List
VA	10	2" x 1 1/2"	1	100 to 10M	\$0.45	VH	75	5 1/4" x 3 1/4"	6	50 to 25M	\$1.80
VB	20	2 1/2" x 1 3/8"	1	100 to 15M	.60	VH	75	5 1/4" x 3 1/4"	6	25M to 75M	1.95
VC	25	3" x 5/8"	1	100 to 20M	.75	VI	100	8" x 1 1/2"	6	50 to 25M	2.15
VD	30	4" x 3/8"	2	20 to 25M	.85	VI	100	8" x 1 1/2"	6	25M to 100M	2.30
VE	35	4" x 5/8"	3	20 to 30M	1.00	VJ	150	9 1/2" x 1 1/2"	6	50 to 25M	2.60
VF	40	4 1/2" x 3/4"	3	20 to 40M	1.30	VJ	150	9 1/2" x 1 1/2"	6	25M to 100M	3.00
VG	50	5 1/4" x 3/4"	4	30 to 50M	1.50	VK	200	11" x 1 1/8"	6	100 to 25M	3.15
						VK	200	11" x 1 1/8"	6	25M to 50M	3.25
						VK	200	11" x 1 1/8"	6	51M to 100M	3.85

NOTE—Extra Bands—Add 10c each to cost

5 and 10-Watt Wire-Wound Resistors with PIGTAILS and LUGS



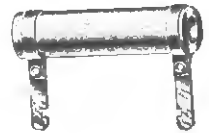
10
Resistors
of each
Ohmage in
Standard
Cartons

Moisture Proof—Triple Insulation
Tolerance within 2%—64 Standard Ohmages

Type SPT-5 (5 watts)—Size 1 1/2" x 3/8"
Type SPT-10 (10 watts)—Size 1 1/4" x 3/8"

Ohms	List Price		Ohms	List Price	
	5	10		5	10
5	\$0.30	\$0.35	1350	\$0.30	\$0.35
10	.30	.35	1400	.30	.35
15	.30	.35	1500	.30	.35
20	.30	.35	1750	.30	.35
25	.30	.35	2000	.30	.35
30	.30	.35	2250	.30	.35
40	.30	.35	2500	.30	.35
50	.30	.35	2750	.30	.35
75	.30	.35	3000	.30	.35
100	.30	.35	3500	.30	.35
125	.30	.35	4000	.30	.35
150	.30	.35	4500	.30	.35
175	.30	.35	5000	.30	.35
200	.30	.35	6000	.30	.35
225	.30	.35	7000	.30	.35
250	.30	.35	7500	.30	.35
275	.30	.35	8000	.30	.35
300	.30	.35	8500	.30	.35
350	.30	.35	9000	.30	.35
400	.30	.35	10000	.30	.35
450	.30	.35	12500	.30	.35
500	.30	.35	14000	.30	.35
600	.30	.35	15000	.30	.35
700	.30	.35	17500	.30	.35
750	.30	.35	20000	.30	.35
800	.30	.35	22500	.30	.35
850	.30	.35	25000	.30	.35
900	.30	.35	30000	...	.35
1000	.30	.35	35000	...	.35
1100	.30	.35	40000	...	.35
1200	.30	.35	45000	...	.35
1250	.30	.35	50000	...	.35

10-20-25 WATTS WIRE-WOUND RESISTORS Special Black Enamel—Fixed Resistors



Moisture Proof—Triple Insulation—Tolerance within 2%
64 Standard Ohmages—5 to 50000 Ohms

Type	Size	Watts	Ohms
SP-10	2" x 1 1/2"	10	5 to 50000
SP-20	2" x 3/4"	20	5 to 50000
SP-25	2 1/2" x 3/8"	25	5 to 50000

Ohms	List Price			Ohms	List Price		
	10 Watts	20 Watts	25 Watts		10 Watts	20 Watts	25 Watts
5	\$0.35	\$0.45	\$0.50	1350	.35	.45	.50
10	.35	.45	.50	1400	.35	.45	.50
15	.35	.45	.50	1500	.35	.45	.50
20	.35	.45	.50	1750	.35	.45	.50
25	.35	.45	.50	2000	.35	.45	.50
30	.35	.45	.50	2250	.35	.45	.50
40	.35	.45	.50	2500	.35	.45	.50
50	.35	.45	.50	2750	.35	.45	.50
75	.35	.45	.50	3000	.35	.45	.50
100	.35	.45	.50	3500	.35	.45	.50
125	.35	.45	.50	4000	.35	.45	.50
150	.35	.45	.50	4500	.35	.45	.50
175	.35	.45	.50	5000	.35	.45	.50
200	.35	.45	.50	6000	.35	.45	.50
225	.35	.45	.50	7000	.35	.45	.50
250	.35	.45	.50	7500	.35	.45	.50
275	.35	.45	.50	8000	.35	.45	.50
300	.35	.45	.50	8500	.35	.45	.50
350	.35	.45	.50	9000	.35	.45	.50
400	.35	.45	.50	10000	.35	.45	.50
450	.35	.45	.50	12500	.35	.45	.50
500	.35	.45	.50	14000	.35	.45	.50
600	.35	.45	.50	15000	.35	.45	.50
700	.35	.45	.50	17500	.35	.45	.50
750	.35	.45	.50	20000	.35	.45	.50
800	.35	.45	.50	22500	.35	.45	.50
850	.35	.45	.50	25000	.35	.45	.50
900	.35	.45	.50	30000	.40	.50	.55
1000	.35	.45	.50	35000	.40	.50	.55
1100	.35	.45	.50	40000	.40	.50	.55
1200	.35	.45	.50	45000	.40	.50	.55
1250	.35	.45	.50	50000	.40	.50	.55

NOTE.—For any other ohmage than those listed above—add 5c to cost.
BE SURE TO SPECIFY TYPE WHEN ORDERING



ATLAS VOLTAGE DIVIDERS

STANDARD REPLACEMENTS

The immediate choice of radio servicemen who know and appreciate honest quality.
 Atlas Voltage Dividers are built to entirely eliminate a major source of trouble—open-circuit dividers.

**FAST SERVICE
 PROMPT DELIVERY**



**PACK WIRE-WOUND
 CHROME-OXIDE COATED**

QUALITY RESISTORS THAT HAVE NO SUBSTITUTE

Type	Total Resistance	Sections	List Price
AIRLINE			
Model 2955	23973 Ohms	150-11250-9473-3100	\$1.35
ALL-AMERICAN MOHAWK	6200 "	900-300-1000-2000-2000	1.30
AMRAD			
Model 7 A.C.	4080 "	2175-1555-350	1.15
Model 70	8600 "	5000-3600	1.10
Model 82	2475 "	475-300-1000-700	1.15
APEX			
Model 7	4300 "	1100-3200	1.30
Model 7	3315 "	890-1800-225-290-200	1.40
Model 8	4450 "	500-1000-1200-600-600-550	1.40
Model 10	6825 "	2500-0-425-600-1800-1000-500	1.35
Model 27	23800 "	10700-8400-4700	1.30
Model 31	37600 "	10700-8400-3500-15000	1.40
Model 48	2970 "	70-2200-700	1.05
Cloritone 99A	24300 "	300-10000-11000-3000	1.35
Models 500-502	20950 "	10650-10000-300	1.35
Model 1009	17635 "	75-60-17500	1.35
ARGUS B195	5505 "	4000-0-460-700-0-65-280	2.60
BALKITE 180B	10890 "	6000-3000-1800	1.35
BOSCH			
Model Essex 4	21900 "	10000-11500-400	1.50
Model 48	4400 "	950-1450-2000	1.10
Model 49	4400 "	1950-800-1650	1.25
Model 54	20 "	20	1.10
Model 58	5130 "	950-180-1950-2050	1.30
Model 60	4700 "	1300-2380-160-950	1.30
Model 62	4250 "	1400-2600-250	1.30
Model 260R	7480 "	3700-2270-1510	1.25
Model 370E	27000 "	1000-12000-8000-6000	1.35
BRANDES			
Model B-10	8540 "	5600-0-10000-110-1800	1.30
Model B-16	2955 "	2500-45-410	1.25
BREMER-TULLY			
Model 640	16720 "	3000-560-6500-5000-1660	1.40
Model 820	13400 "	4900-5500-3000	1.25
BROWNING DRAKE			
Model 54	15300 "	850-4500-3450-3900-2600	1.40
BRUNSWICK			
Model DC	66 "	30-36	3.35
Model PR8-B17	9100 "	1900-200-2500-4000-500	1.30
Model 5KR7-3KR-2KR	3940 "	1600-0-1900-440	1.30
Model 3NC-8			
5NC-8	1290 "	400-350-350-190	1.35
Model 3NWS	7780 "	2200-300-4000-1280	1.30
Model 3NWS	3040 "	1500-1000-250-130-160	1.30
Model P.14	10700 "	300-100-700-2600-7000	1.20
COLONIAL			
Model 28 A.C.	7200 "	1000-4000-2200	1.25
Model 28 A.C.	15500 "	8500-7000	1.25
Model 28 A.C.	125000 "	50000-50000-25000	1.50
Model 31 A.C.	111000 "	37000-370000-37000	1.25
Model 31 D.C.	60 "	Large, filament resistor	2.50
Model 32 D.C.	34.9 "	34.9	2.50
Model 33	420 "	210-210	.55
Model 33 A.C.	121000 "	60000-50000-11000	1.50
Model 35 D.C.	176 "	4-36-136	1.70

Type	Total Resistance	Sections	List Price	
COL. KOLSTER				
Model 300	2640 Ohms	2000-140-500	\$1.25	
Model 500	2650 "	2100-120-430	1.25	
Model 920	2060 "	1650-410	1.10	
Model 931	9035 "	6000-2200-135-700	1.35	
Model 940	2955 "	2500-45-410	1.25	
Model 950	13110 "	9000-3230-140-70-700	1.30	
Model 950	50000 "	30000-20000	1.40	
Model 961C5	8050 "	7200-60-90-700	1.30	
CROSLY				
Fiver	32400 "	24000-8100	.50	
Model 158	25000 "	10000-15000	.50	
Model 76 D.C.	52.7 "	5-47.7	1.62	
Model 704	5000 "	1525-3475	.95	
Model 705	140 "	95-45	.95	
D. C. RESISTOR	360 "	45-315	.75	
DAY FAN	8100 "	1000-3700-2050-100-50-1200	2.15	
DAY FAN JR.	6300 "	2900-3000-1300	1.30	
EARL				
Models 31-32	4750 "	4000-0-750	1.30	
Models 31-32	5000 "	5000	1.25	
EDISON				
Model D.C.	31 "	24-315-315	1.95	
Model D.C.	32 "	20-6-6	1.95	
Model R1	1500 "	750-750	.70	
Model R2	12500 "	12500	1.30	
ERLA	18100 "	100-11600-3400	1.30	
FADA				
Model 18 D.C.	250 "	10-200-40	1.25	
Model 82 D.C.	25 "	15-10	1.95	
FEDERAL E	2685 "	135-2000-200-350	1.75	
FREED				
Model 958	4750 "	4000-0-750	1.30	
Model 958	5000 "	5000	1.25	
FREED EISEMAN				
Model NR60	6350 "	2000-350-0-4000	1.40	
Model NR80	3750 "	2000-1750	1.25	
Model NR80	4350 "	4000-0-350	1.30	
Model NR85	2350 "	2000-350	1.10	
Model NR85	4250 "	1900-2000-0-350	1.35	
FRESHMAN				
Model G	10950 "	300-1250-4300-3000-2100	1.30	
Model G60S	11390 "	1800-1500-3000-2000	1.30	
Model H60S	9300 "	4000-3800-1500	1.30	
Model N	18190 "	2200-1100-3300-4500-1500	1.30	
GENERAL MOTORS				
Model	5187 "	800-50-1863-2000-465	1.30	
Model 231	19300 "	4800-7600-6900	1.10	
Model 81A	40000 "	15000-25000	1.00	
GOLDEN LEUTZ	41000 "	9000-3500-4000-4500-11000-9000	2.30	
GREBE				
Model A.C. 6	2500 "	2500	.70	
Model A.C. 6	7900 "	6300-95-695	1.30	
Model A.C. 6	9450 "	5900-2800-750	1.30	
Model 8.K. 4	2930 "	677-2200-62	1.30	
GULBRANSON				
Model 8 A.C.	24005 "	3190-9475-11250-180	1.40	
HALSON				
	360 "	330-30	1.10	
	425 "	375-50	1.10	
HOWARD	135 A.C.	29600 "	1600-12000-16000	1.30
KENNEDY				
Model 20B	4250 "	2000-1500-750	1.25	
Model 32	5750 "	2800-400-1800-750	1.30	

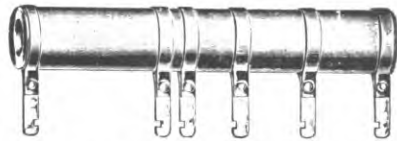
ATLAS VOLTAGE DIVIDERS

EXACT DUPLICATES



ATLAS WIRE-WOUND TUBULAR RESISTORS have been generally acclaimed throughout the world as standard resistors designed especially to meet all radio requirements. They are used widely in service and replacement work.

**MOST COMPLETE LINE
PACKED IN INDIVIDUAL BOX**



**PACK WIRE-WOUND
CHROME-OXIDE COATED**

MADE TO EXACT SPECIFICATIONS

Type	Total Resistance	Sections	List Price
KOLSTER			
Model 61I	6440 Ohms	940-5000-500	\$1.25
Model 61J	7120 "	3000-3000-220-900	1.30
Model 21K	1115 "	90-125-900	1.25
Model 22K	7120 "	3000-3000-220-60-810	1.30
Model 24K	7835 "	3100-3800-55-80-140-360	1.20
Model 38K	4430 "	3600-55-75-700	1.25
Model 42K	3580 "	840-140-2600	1.25
Model 43K	2980 "	1600-1000-380	1.30
Model 44K	2650 "	1450-650-200-350	1.35
Model 48K	5600 "	1500-2000-100-2000	1.30
Model 70K	8200 "	3990-3000-2000-200	1.30
Model 90K	16250 "	6000-7000-3000-250	1.30
Model 250K	8650 "	7800-60-90-700	1.10
LANG D.C.	233 "	30-27-27-27-15-80	1.40
MAJESTIC			
Model 20	12630 "	0-150-800-0-7500-4200	1.85
Model 25 D.C.	83 "	1 1/2-20-60-0-1 1/2	3.80
Model 39	19461 "	2350-3870-3460-0-101-750	1.85
Model 59	33620 "	140-250-0-23000-10000-230	1.85
Model 60	12700 "	6500-0-4300-600-0-500-800	1.85
Model 163	21400 "	4300-5700-4100-6000-500-800	1.85
Model 200	13790 "	7000-3500-3000-110-180	1.30
Model 250	82 "	45-15-2-0-20	3.80
Model 290	28610 "	230-0-6700-2100-18000-180-700-0-100	2.00
Model 300	25532 "	230-0-4900-72-20000-220-110	1.85
Model 360	29050 "	1500-9000-125-18000-200-225	1.85
Model 460	21778 "	10500-9000-364-1800-134-180	1.85
NORDEN HAUCK			
Model	755 "	775	.70
Model	6000 "	6000	.80
Model	14000 "	6500-6000-1500	1.40
Model 550	23000 "	8900-2500-3000-2500-7000	1.40
PEERLESS K70	19000 "	2500-8000-8500	1.40
PHILCO			
Model 20	5107 "	1400-187-75-0-2470-975	1.30
Models 30-70-77-77A	1050 "	250-800	.70
Model 70	3619 "	180-70-0-2300-1060	1.30
Model 86	4750 "	2100-1900-150-1500	1.30
Model 87	4582 "	3785-157-0-640	1.30
Model 511	20700 "	12500-5500-0-300-2400	1.40
R.C.A. RADIOLA			
Model 17	9100 "	1900-200-2500-4000-500	1.30
Model 18	3940 "	1300-0-1000-440	1.30
Model 28	2800 "	2900-300-500	1.30
Model 30A	6700 "	3000-2300-300-500-900	1.30
Models 31-33 D.C.	580 "	80-500	1.15
Model 41	25300 "	12300-8000-5000	1.30
Models 42-48	4865 "	3200-830-120-715	1.25
Models 44-46	2580 "	900-0-1460-540-0-80	1.30
Models 44-46	8400 "	2890-990-3600-1100	1.30
Models 46-47	2980 "	1460-540-0-80	1.30
Models 60-62	1290 "	400-350-350-100	1.35
Model 64	3940 "	1590-1900-250-130-160	1.30
Model 64	7780 "	1280-4000-300-2200	1.30
Model 64-67	4470 "	319-3850-310	1.00
Model 67	4939 "	2100-960-240-115-215-100	1.35
Model 67	8335 "	1435-3400-300-3200	1.30
SILVER MARSHAL			
Model 651	9720 "	3890-4200-730-900	1.30
SIMPLEX			
	1390 "	430-210-750	.80
SONORA			
A-36	21000 "	14000-7000	1.30
B-31	6950 "	750-1200-1500-3500	1.25

Type	Total Resistance	Sections	List Price
SPARTAN D.C.	Ohms	54	\$1.38
SPLITDORF			
Model	150 "	750-750	.70
Model	1320 "	650-150-4500-5400-2500	1.40
Model 171	11650 "	2000-3500-4000-150-2000	1.35
SPLITDORF ABBEY			
Model	11500 "	2500-3000-3000-3000	1.30
Model	13500 "	2500-3000-3000-3000-2000	1.40
STEINITE			
Model 26	16000 "	8000-8000	1.00
Model 49	20200 "	1190-4270-11740-3000	1.50
Model 59-102	25877 "	8100-11750-5200-827	1.40
Model 79	22440 "	10000-10000-2440	1.40
Model 991	2500 "	1000-1000-250-0-250	1.25
STERLING			
Model 41	5350 "	4000-450-900	1.30
Model 41	29000 "	20000-9000	1.30
STEWART WARNER			
Model 950	3250 "	850-2400	.95
Model 950	3330 "	1110-2220	.50
Model 950	15500 "	10000-5500	1.25
STROMBERG CARLSON			
Models 10-11	4500 "	400-100-4000	1.40
Models 10-11	10600 "	4570-3250-2000	1.40
Model 12	11025 "	4000-4000-3025	1.40
Model 12	6570 "	5000-100-1210-260	1.40
Model 20	3285 "	1575-900-0-60-0-750	1.40
Model 25	4999 "	4000-100-800	1.35
Model 25	9390 "	1800-3000-4500	1.35
Model 403 A.A.	5500 "	3000-2500	1.30
Model 523	3770 "	3000-70-700	1.35
Model 523	5500 "	3000-2500	1.30
Model 635	9270 "	2500-3000-3000-770	1.30
Model 638 D.C.	10 "	10	1.40
Model 638 D.C.	12 "	12	1.40
Model 638 D.C.	30 "	30	1.40
Model 638 D.C.	200 "	200	1.40
Model 638	9000 "	2500-6000-500	1.15
Models 641-651	19300 "	7890-4500-3000-4000	1.40
Model 642	9750 "	1450-1000-3000-1300	1.30
Model 642	11000 "	7890-3200	1.15
Model 846	9290 "	3200-6000	1.30
Model 846	6380 "	330-1700-4350	1.35
TEMPLE			
Model 7-60	21600 "	8000-1500-8900-4000	1.40
Model 8-60	6850 "	990-5200-750	1.30
THORDARSON			
Model R171	13000 "	2000-3000-3000-3000-2000	1.40
VICTOR			
Models 9-18	3670 "	630-1500-1000-250-130-160	1.35
Model R925	3400 "	1400-2000	1.10
Models R32, 45, 52 & 75	6925 "	2900-1350-200-775	1.50
ZANEY GILL VITATONE			
Model 54	18450 "	2190-7500-7500-1350	1.30
ZENITH			
Model 10	21500 "	6000-7500-8500-2500	1.35
Model 10			
Power Pack	22700 "	12000-5200-5500	1.40
Model 11	7200 "	3200-1200-1200-1600	1.35
Model 12	7500 "	1000-3590-1000-2000	1.40
Model 18	35399 "	13000-11000-9500-1800	1.55
Model 50	6000 "	850-2350-2800	1.30
Model 90	13070 "	3900-10000	.45
Model 91	6400 "	2800-3600	.60
Model 91	8000 "	3000-5000	.60



ATLAS RESISTORS

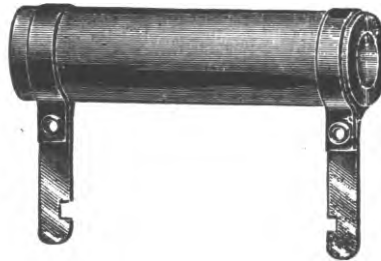
FOR SPECIAL REQUIREMENTS

We recommend Atlas Pack-Wound Heavy-Duty Chrome-Oxide Coated Resistors for Ship Instruments, Meters, Laboratory Equipment, Transmitting and Radio Receivers or any requirement where dependable resistors are essential

Every Mechanical Advantage to produce the Highest Efficiency Possible is represented in these Specially Designed Types.



ACCURATE
2% TOLERANCE



NON-POROUS
A QUALITY PRODUCT

SINGLE OR TAPPED UNITS

Type	Watts	Dimensions	Ohms	List	Type	Watts	Dimensions	Ohms	List
AB	5	1" x 1/8"	5 to 25M	\$0.30	HI	60	5" x 1"	20 to 25M	1.15
BC	5	2" x 1/8"	5 to 25M	.35	IJ	60	5" x 1"	26M to 50M	1.20
CD	10	2" x 1/4"	5 to 25M	.40	JK	75	6" x 1 1/8"	20 to 50M	1.35
CD	10	2" x 1/4"	26M to 50M	.45	JK	75	6" x 1 1/8"	51M to 100M	1.45
DE	20	2" x 3/8"	5 to 25M	.55	KL	100	8" x 1 1/8"	20 to 50M	1.65
DE	20	2" x 3/8"	26M to 50M	.60	KL	100	8" x 1 1/8"	51M to 100M	1.80
EF	25	3" x 5/8"	5 to 25M	.70	LM	150	9 1/2" x 1"	20 to 50M	1.90
EF	25	3" x 5/8"	26M to 50M	.75	LM	150	9 1/2" x 1"	51M to 100M	2.15
FG	35	4" x 5/8"	10 to 25M	.90	LM	200	11" x 1 1/8"	20 to 100	2.20
FG	35	4" x 5/8"	26M to 50M	.95	LM	200	11" x 1 1/8"	150 to 25M	2.40
GH	50	4" x 5/8"	10 to 25M	1.00	LM	200	11" x 1 1/8"	26M to 100M	2.65
GH	50	4" x 5/8"	26M to 50M	1.10					

Edison Base Types are available only in 1/8" tube diameter. 50, 75, 100-Watt Ratings

NOTE: ADD 10c TO COST FOR EACH ADDITIONAL TAP
ADD 20c TO COST FOR HEAVY MOUNTING BRACKETS
ADD 30c TO COST FOR EDISON BASE TYPE

ATLAS HEAVY-DUTY CHROME-OXIDE COATED TRANSMITTING BLEEDER RESISTORS WITH CENTER TAP

Ruggedly built, accurately made and procurable in a practical non-inductive winding. Atlas high voltage bleeder resistors are designed to improve the performance of your transmitter by functioning quietly, and effectively.

4 or 8 Sections.



A most important feature found only in Atlas heavy duty bleeder resistors is the non-inductive winding. Each side of the center tap has two to four oppositely wound sections of equal resistance. Therefore should only one section be used, that section will be purely non-inductive as well.

Used for Grid Leaks as well as for Bleeders by AMATEUR SHORT-WAVE AND BROADCAST STATIONS
Specify whether you want Inductive or Non-Inductive Bleeders
EQUIPPED WITH HEAVY MOUNTING BRACKETS

100 WATTS—Size 8" x 1 1/8"			
Type	Ohmage	Resistance	List
SF	5000	2500-0-2500	\$1.95
SFA	10000	5000-0-5000	1.95
SFB	15000	7500-0-7500	1.95
SFC	20000	10000-0-10000	1.95
SFD	30000	15000-0-15000	1.95
SFE	40000	20000-0-20000	2.10
SFF	50000	25000-0-25000	2.10
SFG	100000	50000-0-50000	2.10
150 WATTS—Size 9 1/2" x 1"			
TG	5000	2500-0-2500	2.20
TGA	10000	5000-0-5000	2.20

150 WATTS—Size 9 1/2" x 1" (Continued)			
Type	Ohmage	Resistance	List
TGB	20000	10000-0-10000	\$2.20
TGC	50000	25000-0-25000	2.45
TGD	100000	50000-0-50000	2.45
200 WATTS—Size 11" x 1 1/8"			
UH	5000	2500-0-2500	2.50
UHA	10000	5000-0-5000	2.50
UHB	15000	7500-0-7500	2.50
UHC	20000	10000-0-10000	2.50
UHD	30000	15000-0-15000	2.50
UHE	40000	20000-0-20000	2.70
UHF	50000	25000-0-25000	2.70
UHG	100000	50000-0-50000	2.70

Add 40c to Cost for Non-Inductive Bleeders

AUTOMATIC

AMPERITE

REGULATOR

BALLAST TUBE FOR AUTOMATIC REGULATION OF CURRENT AND VOLTAGE



110 Volts—A.C. Sets

AMPERITE IS A REAL REGULATOR—Its resistance automatically varies to compensate for supply voltage variations. It should not be confused with ordinary resistors.

For 110-V. A.C. Sets—The proper Amperite is determined by the line current. A set drawing 0.7 A requires Amperite 7A5, 1.2 A requires Amperite 12A5, etc. Depending upon the line voltage, the voltage drop across an Amperite of — A5 series will vary from 5 to 30 volts and will control line voltages of 100 to 140 volts.

HOW TO DETERMINE PROPER AMPERITE FOR A.C. SETS

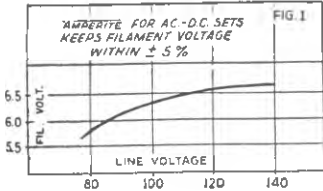
Line Voltage	110 V	220 V
No. of Tubes in Set	Use Amperite No.	Use Amperite No.
4 or 5	5-A-5	2H-5
6 or 7	7-A-5	3H-5
8, 9 or 10	9-A-5	4H-5
11 or 12	11-A-5	5H-5

The line current drain of most 110 Volt A.C. Sets—except those using 6L6 or '50 tubes—average approximately 0.1 amp. per tube. A 7-tube set will draw 0.7A—use Amperite 7A5, etc. 220 Volt A.C. sets have half the current drain of similar 110 A.C. sets. For proper Amperite see Chart at left.

A C. - D. C. SETS

For A.C.-D.C. Sets

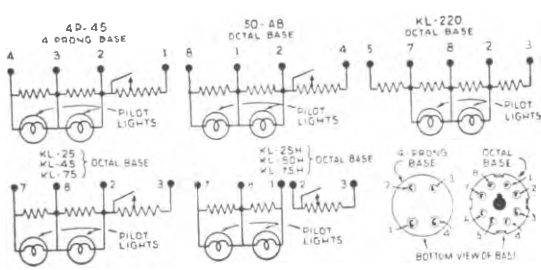
The Amperite Regulators are designed to pass only 0.3A through tube filaments. Filament voltages will be kept within $\pm 5\%$ with line voltage variations of 85 to 140 volts. Due to the fact that Amperite is a real regulator, 2 types of Amperite with four prongs and 2 with octal bases will replace 150—90% of all—



so-called ballasts or resistors used in A.C.-D.C. sets. No extra resistor required.

Pilot Lights—None, one or two of either 0.150A or 0.250A can be used with same Amperite. Should a pilot light burn out, the set will continue to operate properly without any damage to the Amperite tubes or other parts. The patented starting resistor in the Amperite prevents overloading and premature burning-out of tubes and pilot lights. In some sets the ballast socket is purposely wired in such a way that the Pilot Light Resistors of standard ballasts would be burned out if inserted. In such sets special Amperites are required, as shown in table. Avoid burnouts—use proper Amperite.

BASE WIRING OF AMPERITES FOR A.C.-D.C. SETS



AMPERITES FOR 2-VOLT BATTERY SETS

Two-volt tube filaments are delicate and easily overloaded. Keeping the tube filaments at their proper voltage with a real regulator like Amperite invariably results in considerably more battery and tube life. The same Amperite can be used for dry cell, air cell, or 2 volt storage battery operation. The proper Amperite is determined by the total filament-current drain of the set, e.g.—for 0.5A use Amperite 5E1, etc.

REPLACEMENT REGULATORS—A.C.-D.C. SETS. List \$1.00

Amperite No.	Amperite Numbers Shown Replace All A.C.-D.C. Ballasts		
	Starting With Letter	With Numbers From	Ending In
KL 25 KL 45 KL 75	K, L, M or BK BL or BM	10 to 36 36 " 67 67 " 105	A, B, C, or D " "
KL 25H KL 50H KL 75H	K, L, M, or BK "	11 to 26 36 " 67 67 " 105	F, G, or H " "
KL 50S1 KL 50S2 KL 50S3	K or L "	40 to 100 " "	S1 S2 S3
KL 50E	"	36 " 67	E

Except K18B, use Amperite K18E—4-Prong Base.

For	Use Amperite	For	Use Amperite	For	Use Amperite	For	Use Amperite
.00C2	a R300	3MZ-419	a 3MZ-419	9	a 4P45	33AG	a KL-25
.03G	a .03G	3MZ419A	a 3MZ419A	9-1	b 1Z1	33-310	a
.038	r 11-20			9A5	c 9A5	3.6D5	a 3.6D5
.042		4	a 4	9-10	r 9-10	36A	a KL-25
I-1	r I-1	4-1	b 1G1	9-20	r 9-20	40	a 3-40
1A1	b 5E1	4A5	c 4A5	9-150	e 9-150	40W	a 3-40
1A2	b 30	4-10	r 4-10	9-220	c 9-220	40A2	a 4P45
1A5	c 1A5	4-20	r 4-20	9V10	c 8A5	40B2	a 4P45
1B1	b 3H1	4-150	c 4-150			40X300	a 4P45
1B2	b 31	4-220	c 4-220	10-1	b 10-1		
1C1	b 7H1	4H-1	b 4H-1	10A5	c 10A5	42A	a 3-40
1C2	b 52	4H-5	c 4H-5	10AB	b 5H-1	42A1	a 50AB
1D1	b 2H-1	4H-10	r 4H-10	10-10	r 10-10	42A2	a 50AB
1D2	b 1D2	4H-20	r 4H-20	10V10	c 10V10	42B2	a 50AB
1E1	b 5E1	4H-150	c 4H-150	10-20	r 10-20	42HA	a
1E2	b 1E2	4H-220	c 4H-220	10-23A	a KL-25		
1F1	b 7-1	4SR311	c 4SR311	10-25	r 10-25	45W	a 4P45
1G1	b 4-1	4-TU-9	a KL-45	10-150	e 10-150	46A1	a 46A1
1H-1	b 1H-1			10-220	c 10-220	46B1	a 46B1
1H-5	c 1H-5	5	a 5	10-610	a 10-610	48A	a 4P45
1J1	b 6-1	5B	a 5B	10-800	c 10-800	49A1	a 50AB
1K1	b 5H-1	5-1	b 5E1			49A2	a 50AB
1L1	b 1L1	5A5	c 5A5	11A5	c 11A5	49B2	a 50AB
1N1	b 1N1	5-10	r 5-10	11-10	r 11-10	50MG	a KL50S1
1P1	b 1P1	5-16	c 5-16	11-20	r 11-20	50W	a 4P45
1Q1	b 1Q1	5-20	r 5-20	11-150	c 11-150	50A2	a 4P45
1R1	b 1R1	5-150	c 5-150	11-220	c 11-220	50A2MG	a KL50S2
1S1	b 1S1	5-220	c 5-220	12A5	c 12A5	50B2	a 4P45
1T1	b 1T1	5E1	b 5E1	12-10	r 12-10	50B2MG	a KL50S1
1U1	b 1U1	5H-1	b 5H-1	12-20	r 12-20	50X3T	a 4P45
1V1	b 5H-1	5H-3	c 5H-3	12-150	c 12-150	50X300	a 4P45
1W1	b 1W1	5H-5	c 5H-5	12-220	c 12-220		
1Y1	b 5H-10	5H-10	r 5H-10	13A5	c 13A5	52	b 1C2
1Z1	b 9-1	5H-20	r 5H-20	13-10	r 13-10	55A	a KL45
		5H-150	c 5H-150	13-20	r 13-20	55H	a KL50H
		5H-220	c 5H-220	14A5	c 14A5	55LB	a L55B
2	a 2	6	r 1F1	14-10	r 14-10	55RB	a KL-45
2-1	b 2-1	6	r 1J1	14-20	r 14-20	60-02A	a KL-75
2A5	c 2A5	6-1	c 6A5	14-50	c 14-50	60R30	a 60R30G
2-10	r 2-10	6A5	c 6A5	15A5	c 15A5	60R30G	a 60R30G
2-20	r 2-20	6-10	c 6-10	15-10	r 15-10	64.23	a
2C'R-241	a KL-45	6-20	c 6-20	15-20	r 15-20	67A	a KL45
21R-212	a 50AB	6-150	c 6-150	16A5	c 16A5	69-2027	a 3-40
2M2	a 2M2	6-220	c 6-220	17-2	s 17-2	69-2028	a 3-220
2C'R-215	a KL-45	6AA	b 5E1	17A5	c 17A5	69-2033	a KL-45
21R-224	a KL-45	6B	a 4P45	18	r 18	66-2037	a KL-45
2H-1	b 1D1	6.125	a KL-45J	18-10	r 18-10	70	r 70
2H-2E	b 2H-2E	6.126	a KL-45J	19A5	c 19A5	75	a KL-75
2H-5	c 2H-5			20-1	s 20-1	80	a 4P45
2H-10	r 2H-10	6-128	a KL-45J	20-10	r 20-10	80R	a 80R
2H-20	r 2H-20	6-129	a KL-45J	22-10	r 22-10	85L75CC	a 85L75CC
3	a 3	6-130	a KL-45J			90	r 90
3-1	b 3-1	6-133	a KL-45J			92A	a 4P45
3A5	c 3A5	6-134	a			95K2	a KL-45
3-10	r 3-10	6-135	a KL-45J			98	r 9-20
3-20	r 3-20			23-55A	a KL-45	100	r 9-20
3-25	a 3-25			23-55F	a KL-50H	100.R8	a 4P45
3-40	a 3-40	7-1	b 1F1	23-3	s 23-3	100-33	a
3-150	c 3-150	7A5	c 7A5	24-4	s 24-4	100-37	a KL-45J
3-220	b 3-220	7-10	r 7-10			100-38	a KL-45J
3C'R-241	a KL-45	7-20	r 7-20			100-46	a 100-46
3ER-248	a KL-45J	7-150	c 7-150			100-47	a 100-47
3ER-249	b 3ER-249	7-220	c 7-220				
3H-1	b 1B1						
3H-2E	b 3H-2E	8	a 4P45				
3H-5	c 3H-5	8-1	b 8-1				
3H-10	r 3H-10	8A5	c 8A5				
3H-20	r 3H-20	8-10	r 8-10				
3H-150	c 3H-150	8-20	r 8-20				
3H-220	c 3H-220	8-150	c 8-150				
3MR-253	a 3MR-253	8-220	c 8-220				

(Continued on other side)

WIRT Resistors

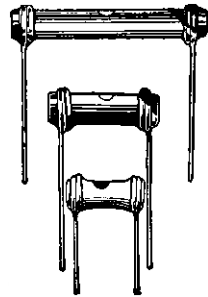
CARBON COMPOSITION FIXED RESISTORS

RMA Color-Coded Any Resistance

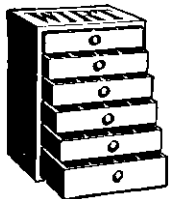
Watts	List Price
2	\$.30
1	.20
1/2	.20
1/3	.20
1/4	.20

FIVE REASONS WHY WIRT FIXED RESISTORS ARE SPECIFIED BY BEST KNOWN RECEIVING SET MANUFACTURERS

- Voltage coefficient:** Guaranteed well within 10%. By actual test 3% up to 500,000 ohms and not greater than 10% of any value.
- Noise:** Less than one microvolt when measured on an amplifier having a gain of 65 dB.
- Humidity:** After 100 hours in 90% relative humidity at 105° F. resistance change guaranteed under 10%—average of 1000 recorded tests under 3%.
- Life:** Contrary to custom WIRT laboratory life tests are made at 100% overload instead of at a fraction of rated wattage. A batch of resistors recently removed from test after 4240 hours continuous 100% overload showed average resistance change of 2.81%.
- Accuracy:** Resistors are individually tested by advanced methods to insure accuracy.



NOW! WIRT RESISTORS IN THE NEW LIFETIME CABINET



AND WHAT A CABINET! It is made by a leading manufacturer of small cabinets, of carefully selected, well seasoned bass wood, with corners dadoed and glued for strength; varnished and rubbed to give a beautiful natural wood finish.

It has six drawers, each one having three removable partitions, making four compartments. The upper five drawers are one inch deep and the bottom one is one and one-half inch deep. All are six inches wide and five and one-half inches long. Drawer guides, bottoms, and partitions are made of three-ply laminated wood, to prevent warping. The knobs are brass and securely fastened.

It is just such a cabinet as radio repair men would be glad to buy for the storage of such parts as condensers, bolts, nuts and small tools. BUT—it is given to you at this time absolutely free with your purchase of the selected assortment of ONE HUNDRED WIRT CARBON RESISTORS, which are packed in the cabinet for shipment. The carbon resistors in these new Wirt Lifetime Cabinets are subjected to the same rigid tests as the millions supplied to the leading manufacturers for use in receiving sets. The assortment is made up of resistance values, which the serviceman will need to repair radio sets now in use. A complete list will be found below. The cabinets are uniform in size. Two or more can be placed side by side to make a chest of drawers of any desired storage capacity. Anticipate your resistor requirements. Build up a unit large enough to store all of your small parts. You will appreciate this suggestion once you see these cabinets.

R. M. A. COLOR-CODED ONE-WATT CARBON RESISTOR ASSORTMENT

In making up the contents of these cabinets we were faced with the problem of supplying a balanced assortment. We were not satisfied to rely solely upon our judgment, but consulted a number of our distributor outlets.

The following list is the result of this investigation:

Ohms	Quantity	Ohms	Quantity	Ohms	Quantity	Ohms	Quantity
300	2	2,000	4	20,000	4	100,000	8
400	4	2,500	2	25,000	8	200,000	2
500	4	3,000	2	30,000	2	250,000	8
600	2	5,000	4	40,000	2	500,000	8
1,000	4	10,000	8	50,000	8	1,000,000	4
1,500	2	15,000	4	75,000	2	2,000,000	2
Total 100							

If you feel that you should not purchase one hundred resistors at one time ask your jobber about our offer covering fifty units.



910



902-904



906



908



914-916

AUTO RADIO IGNITION SUPPRESSORS

All metal parts made of rugged unfinished brass. Ceramic casing is glazed wet process high-tension porcelain with internal threads to engage threaded terminals. Terminals are securely fastened in casings by special moisture and heat resisting dielectric cement. Resistor pills are sprayed with molten copper and tinned, then double impregnated with a special moisture-proofing compound. Resistance value will not change more than 7% after being submerged in water for 100 hours. Test by sparking 1800 times per minute at 10,000 volts for 100 hours produces resistance change not more than 3%. WIRT Suppressors are impervious to heat, oil, moisture and mild acids, and will not change in resistance more than 10% in 50,000 miles of operation.

Made in two kinds of casings—Ceramic and Bakelite.

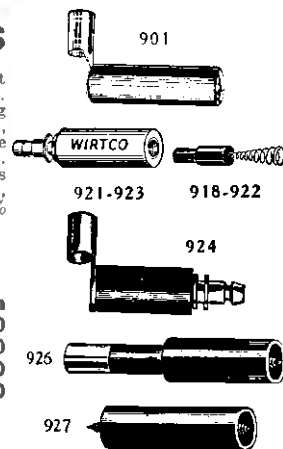
CERAMIC CASINGS

No.	List, Each
910 Distributor Type , Standard for all Distributors.	\$.40
902 Bracket Type , for all Standard Work.	.40
904 Ford V8 , Special Resistance for Ford V8 cars.	.40
906 Cable Type , for splicing in cable.	.40

BAKELITE CASINGS

No.	List, Each
901 Elbow Type , with terminal attached to casing.	\$.30
908 Elbow Type , with terminal molded in.	.40
914 Bracket Type , Standard.	.30
916 FV-8 .	.30
918 FV-8 Brush Type for 1933-34 and 35 Cars.	.30
921 Universal Screw Type .	.30

No.	List, Each
922 FV-8 Brush Type for 1936-37-38-39 Cars.	\$.30
923 Universal Screw Type FV8.	.30
924 Snap-on Type .	.30
926 Cable Type , for splicing in cable.	.30
927 Distributor Type with terminal molded in.	.30



WIRT

Resistors

WIRT SEMI-VARIABLE RESISTORS

WIRT SEMI-VARIABLE RESISTORS are wound on ceramic tubing and are protected by Phenocote, the new tough, rugged, heat-resisting covering developed in the WIRT laboratories. Bands are made with small contact buttons so that a number of taps may be made without shorting out much resistance.



Standard Equipment: 2 Tab Terminals — 1 Sliding Band — 2 Mounting Brackets.
(No mounting brackets furnished with 10-Watt size.)

SIZE: 1 3/4" x 3/8" — RATING 10 WATTS

	List Price Each
1 ohm to 10,000 ohms.....	\$0.60

SIZE: 2" x 3/4" — RATING 25 WATTS

1 ohm to 5000 ohms.....	\$0.85
6M to 10M ohms.....	.95
20M to 25M ohms.....	1.10

SIZE: 4" x 3/4" — RATING 50 WATTS

5 ohms to 5M ohms.....	\$1.35
7M to 25M ohms.....	1.50
30M to 50M ohms.....	1.70
60M to 100M ohms.....	2.00

SIZE: 6" x 3/4" — RATING 75 WATTS

	List Price Each
10 ohms to 5M ohms.....	\$1.75
7500 to 25M ohms.....	2.00
30M to 50M ohms.....	2.25
60M to 100M ohms.....	2.50

SIZE: 8 1/2" x 1 1/8" — RATING 100 WATTS

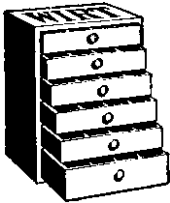
5 ohms to 10M ohms.....	\$2.50
15M to 50M ohms.....	2.90
75M to 100M ohms.....	3.25

EXTRA SLIDING BANDS

10W, 25W, 50W.....	\$0.10
75W, 100W.....	.15

WHEN ORDERING BE SURE TO STATE TOTAL RESISTANCE OF UNITS

NOW! WIRT WIRE WOUND RESISTORS IN THE NEW LIFETIME CABINET



The Cabinet contains the following ten-watt Phenocote Tubular Resistors:

1—100 Ohms	2— 500 Ohms	2—2500 Ohms	2— 7500 Ohms
2—200 "	2— 750 "	2—3000 "	5—10000 "
2—250 "	2—1000 "	1—4000 "	5—15000 "
1—300 "	2—1500 "	5—5000 "	5—20000 "
1—400 "	2—2000 "	1—6000 "	5—25000 "

FIFTY TEN-WATT RESISTORS.....	VALUE \$12.00
SPECIAL INTRODUCTORY PRICE.....	\$10.00

and the cabinet is FREE! . . . for full description see reverse side.

WIRTHY FIXED RESISTORS

WIRTHY RESISTORS are wound on ceramic tubes and protected by either VITREOUS ENAMEL, PHENOCOTE, or BAKED ENAMEL.

VITREOUS ENAMEL Units are made of the same material and in the same way as the standard WIRT Enameled Units, which have been adopted as standard by leading users of resistors.

PHENOCOTE—A special material developed in our laboratories, which is baked on the units at a high temperature, insuring resistance to moisture and heat.

BAKED ENAMEL Units are covered with a superior enamel which is baked on at a high temperature.



SIZE: 3/8" x 1 3/4" — RATING 10 WATTS

Resistance	Stock Resistance Values in Ohms
1	7.5 25 75 250 750 2500 7500
2	10 30 100 300 1000 3000 10000
3	12 35 125 400 1200 4000 12000
4	15 40 150 500 1500 5000 15000
5	20 50 200 600 2000 6000 20000

Resistance	List Prices	
	Phenocote or Baked Enamel Monel Metal Leads Each	Vitreous Enamel Monel Metal Leads Each
1 to 25,000 ohms.....	\$0.40	\$0.40

SIZE: 1/2" x 2" — RATING 20 WATTS

Resistance	Stock Resistance Values in Ohms
5	100 400 800 1500 2500 5000 10000
10	150 500 850 1750 2750 6000 12500
25	200 650 1000 1850 3000 7000 15000
50	250 700 1100 2000 3500 7500 25000
75	300 750 1200 2250 4000 8000 35000

Resistance Ohms	List Prices	
	Phenocote or Baked Enamel Monel Metal Leads Each	Vitreous Enamel Monel Metal Leads Each
5 to 15000.....	\$0.65	\$0.65
16000 to 50000.....	.75	.75
51000 to 100000.....	1.00	1.00

SIZE: 3/8" x 1" — RATING 5 WATTS

Resistance	List Prices	
	Phenocote or Baked Enamel Monel Metal Leads Each	Vitreous Enamel Monel Metal Leads Each
1 to 10,000 ohms.....	\$0.35	\$0.35

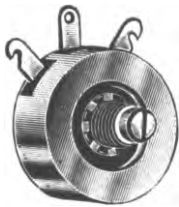
SIZE: 3/4" x 4" — RATING 50 WATTS

Resistance	Stock Resistance Values in Ohms
10	500 2000 5000 9000 17500 50000
20	700 2250 6000 10000 20000 60000
50	750 2500 7000 12000 25000 75000
100	1000 3000 7500 12500 30000 100000
250	1500 4000 8000 15000 40000

Resistance Ohms	List Prices	
	Phenocote or Baked Enamel Tab Term Each	Vitreous Enamel Tab Term Each
5 to 5000.....	\$1.10	\$1.10
5100 to 25000.....	1.25	1.25
26000 to 100000.....	1.45	1.45

WIRT Variable Resistors

MINIATURE RHEOSTATS and POTENTIOMETERS



No. 802

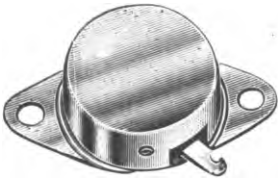
Cat. No. 801 Rheostat—Resistance 5 to 15M ohms, diameter 1 1/8", thickness 1/2", bushing 3/8", 1/4" long, shaft 1" from end of bushing, no flat, or 1/8" from end of bushing slotted for screw driver adjustment.

List Price \$0.75 each

Cat. No. 802 Potentiometer—Resistance 5 to 15M ohms, dimensions same as Cat. No. 801.

List Price \$1.00 each

SENSITIVITY CONTROL



No. 803

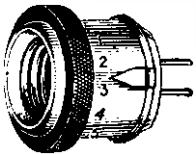
Cat. No. 803 Sensitivity Control — Resistance 5 to 15M ohms. Diameter 1 1/8", thickness 1/2", no shaft or bushing, to be riveted to chassis. Slot in rotor mechanism for screw driver adjustment one side only.

List Price \$0.40 each

Cat. No. 804—Same as Cat. No. 803, except arranged for adjustment from both sides.

List Price \$0.45 each

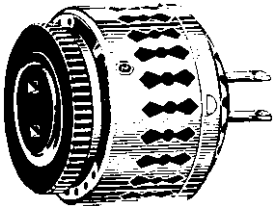
VARIABLE VOLTAGE REGULATOR



No. 211

Cat. No. 211 — A.C. Variable Voltage Regulator for use with A.C. sets having six tubes or less. Capacity of regulator 8 watts.

List Price \$2.45 each

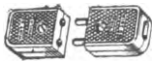


No. 211-B

Cat. No. 211-B—A.C. Variable Voltage Regulator for use with sets drawing not more than 150 watts. Capacity of regulator 21 watts.

List Price \$4.00 each

CORD CONNECTOR



No. 56A

Cat. No. 56A Cord Connector — Molded bakelite. 2 3/8" x 1 1/8" x 1 1/8", capacity 5 amps.

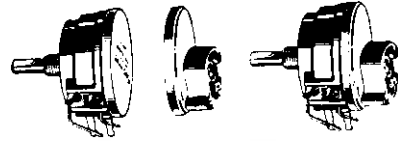
List Price \$0.40 each

SPECIAL CONTROLS

EXACT DUPLICATES OF ORIGINALS

Cat. No.	List Price
SW-1—RCA Victor: RE 32, RE 45, RE 52, RE 75	\$2.50
SW-3—Philco: 77, 77A, 20, 20A, 220, 220A, 21	2.40
SW-9—RCA Victor: R-15, 48, 92	2.75

STANDARD WIRE WOUND SINGLE VOLUME CONTROLS



Diameter 1 3/4"
Depth—without switch 1 1/2"
Depth—with switch 1 3/4"

Cat. No.	Resistance, ohms	List Price
WI-75M	75,000	\$1.00
WI-50M	50,000	1.00
WI-40M	40,000	1.00
WI-32M	32,000	1.00
WI-30M	30,000	1.00
WI-30M-T	30,000	1.00
WG-25M	25,000	1.00
WI-25M	25,000	1.00
WI-25M-T	25,000	1.00
WI-20M	20,000	1.00
WI-15M	15,000	1.00
WI-15M-T	15,000	1.00
WG-15M	15,000	1.00
WI-12M-T	12,000	1.00
WI-10M-T	10,000	1.00
WI-10M	10,000	1.00
WI-7500	7,500	1.00
WI-7500-T	7,500	1.00
WI-5M-T	5,000	1.00
WI-5M	5,000	.95
WI-4M	4,000	.95
WI-3M	3,000	.95
WI-2M	2,000	.95
WI-2M-T	2,000	1.00
WI-1500	1,500	.95
WI-1000	1,000	.95
WI-800	800	.95
WI-750	750	.95
WI-600	600	.95
WI-500	500	.95
WI-400	400	.95
WI-300	300	.95
WI-200	200	.95
WI-100	100	.95
WI-20	20	.95
WI-10	10	.95

Symbol WG indicates grounded shaft
Symbol WI indicates insulated shaft
Letter "T" indicates tapered winding.

SWITCH and COVER PLATE

Cat. No. WR-711—Switch and Cover Plate. List Price \$0.40 each

STANDARD WIRE WOUND DUAL VOLUME CONTROLS

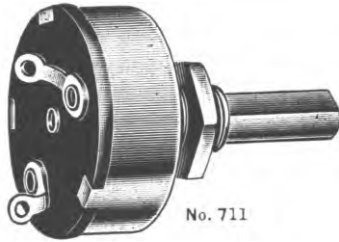
Diameter 1 3/4"
Depth—without switch 1"
Depth—with switch 1 1/8"

Cat. No.	Resistance		List Price
	Upper Section	Lower Section	
WD-50-50	50,000	50,000	\$1.40
WD-15-50	50,000	15,000	1.40
WD-1-50	50,000	1,000	1.40
WD-4-4	4,000	4,000	1.40
WD-7500-10	10,000	7,500	1.40
WD-550-1	1,000	550	1.40
WD-645-10	10,000	645	1.40
WD-25-25	25,000	25,000	1.40
WD-15-500	500	15,000	1.40
WD-285-5	5,000	285	1.40
WD-1800-5	5,000	1,800	1.40
WD-225-5	5,000	225	1.40
WD-10-5	5,000	10,000	1.40
WD-10-25	25,000	10,000	1.40
WD-10-50	50,000	10,000	1.40

WIRT

Switches

ROTARY SNAP SWITCH



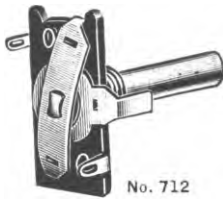
No. 711

Rotary Snap Switch, Underwriters Laboratories Inspected Rating 3 Amp. 125 V. O. D. $1\frac{1}{8}$ ", thickness $\frac{1}{2}$ ".

Cat. No. 711—Single Pole, Single Throw—List \$.40 ea.

Cat. No. 711A—Single Pole, Double Throw—List .45 ea.

WAFER SWITCH



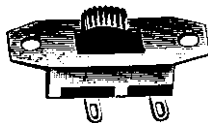
No. 712

Cat. No. 712—Wafer Switch. $1\frac{1}{4}$ " x $\frac{5}{8}$ ". Standard 2 terminals, $\frac{3}{8}$ " diameter bushing, threaded portion $\frac{1}{4}$ " long, shoulder $\frac{1}{8}$ " long, shaft $\frac{3}{8}$ " from end of bushing, shaft grounded. List Price \$0.30 each

Can be furnished with one to four terminals, any desired shaft length—Prices on request.

Cat. No. 717—Same as Cat. No. 712 except shaft insulated. List Price \$0.40 ea.

SNAP SWITCH



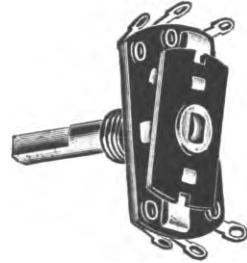
Cat. No. 719—Snap Switch. $\frac{1}{2}$ " wide, $1\frac{1}{8}$ " between center mounting holes.

Single Pole, Single Throw. List Price \$0.25 each



Escutcheon for No. 719 Switch. Steel Nickel Plated. Cat. No. 501—List Price \$0.10 each

CIRCUIT SELECTOR SWITCH

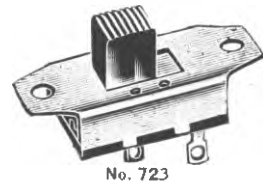


Cat. No. 713—Circuit Selector Switch. $\frac{7}{8}$ " x $1\frac{1}{2}$ ". Bushing diameter $\frac{3}{8}$ ", length thread $\frac{3}{8}$ ", length shoulder $\frac{1}{8}$ ", length shaft beyond bushing $1\frac{1}{2}$ ", flat on shaft $\frac{5}{8}$ " x .218.

List Price

Cat. No. 713—Single Pole, Single Throw..... \$0.65 ea.
 Cat. No. 713—Single Pole, Double Throw..... .70 ea.
 Cat. No. 713—Double Pole, Single Throw..... .70 ea.
 Cat. No. 713—Double Pole, Double Throw..... .75 ea.

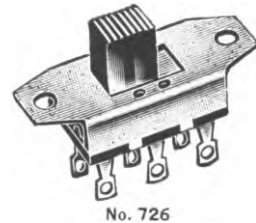
SNAP SWITCHES



No. 723

Housings Steel Cadmium Plated $1\frac{1}{2}$ " x $1\frac{1}{4}$ " overall. Mounting Holes .136" dia. on $1\frac{1}{8}$ " center. Buttons Bakelite $\frac{1}{4}$ " x $\frac{5}{16}$ " x $1\frac{1}{2}$ " high. Contacts and Terminals Silver Plated.

Cat. No. 723—Single Pole, Single Throw, 2 terminals List Price \$0.25 ea.
 Cat. No. 724—Single Pole, Double Throw, 3 terminals List Price .30 ea.



No. 726

Cat. No. 725—Two Pole, Single Throw, 4 terminals List Price \$0.35 ea.
 Cat. No. 726—Two Pole, Double Throw, 6 terminals List Price .45 ea.

ADJUSTOHM RESISTORS

WITH BARE SIDE FOR ADJUSTMENT

WARD
LEONARD 

ADJUSTOHM RESISTORS

Order by Type Number and Resistance Value



Mounting brackets are furnished with all Adjustohm Resistors except the 10 Watt size.

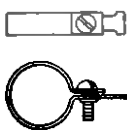
Price of resistor includes end brackets for mounting and one adjustable band.

TYPE 10A

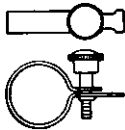
10 WATT $1\frac{3}{4}'' \times \frac{5}{16}''$

Resis. Ohms	Current m. a.	List Price
1	3160	\$0.60
2	2240	.60
3	1825	.60
5	1415	.60
7.5	1155	.60
10	1000	.60
15	815	.60
20	705	.60
25	630	.60
50	450	.60
75	365	.60
100	315	.60
150	258	.60
200	225	.60
250	200	.60
300	183	.60
350	169	.60
400	158	.60
500	142	.60
600	129	.60
750	115	.60
800	111	.60
1,000	100	.60
1,250	89	.60
1,500	81	.60
2,000	70	.60
2,250	66	.60
2,500	63	.60
3,000	58	.60
3,500	53	.60
4,000	50	.60
5,000	45	.60
6,000	41	.60
7,000	38	.60
7,500	36	.60
8,000	35	.60
8,500	34	.60
9,000	33	.60
10,000	30	.60

No brackets furnished



SCREW DRIVER TYPE



BAKELITE KNOB TYPE

Size Watts	Screw Driver Type		Bakelite Knob Type	
	Cat. No.	Price	Cat. No.	Price
10	507-685	\$.10	.....	.....
25-50	507-686	.10	507-691	\$.15
75	507-688	.15	507-693	.25
100-200	507-690	.15	507-695	.25

TYPE 25A

25 WATT $2'' \times \frac{5}{8}''$

Resis. Ohms	Current m. a.	List Price
5	2230	\$0.85
10	1580	.85
15	1290	.85
20	1115	.85
25	1000	.85
50	710	.85
75	580	.85
100	500	.85
150	410	.85
200	355	.85
250	315	.85
300	290	.85
400	250	.85
500	225	.85
750	180	.85
850	170	.85
1,000	160	.85
1,250	140	.85
1,500	130	.85
2,000	110	.85
2,250	105	.85
2,500	100	.85
3,000	90	.85
3,500	85	.85
4,000	80	.85
4,500	74	.85
5,000	70	.85
6,000	65	.95
7,000	57	.95
7,500	53	.95
8,000	50	.95
8,500	47	.95
9,000	44	.95
10,000	40	.95
12,000	33	.95
15,000	26	.95
25,000	16	1.10

TYPE 50A

50 WATT $4\frac{1}{2}'' \times \frac{3}{4}''$

Resis. Ohms	Current m. a.	List Price
5	3160	\$1.35
10	2240	1.35
25	1410	1.35
50	1000	1.35
75	815	1.35
100	705	1.35
150	575	1.35
200	500	1.35
250	445	1.35
300	405	1.35
400	350	1.35
500	315	1.35
750	260	1.35
800	250	1.35
1,000	225	1.35
1,250	200	1.35
1,500	180	1.35
2,000	160	1.35
2,250	150	1.35
2,500	140	1.35
3,000	130	1.35
3,500	120	1.35
4,000	110	1.35
4,500	105	1.35
5,000	100	1.35
6,000	91	1.50
7,000	85	1.50
8,000	79	1.50
9,000	75	1.50
10,000	71	1.50
12,000	64	1.50
15,000	58	1.50
20,000	48	1.50
25,000	40	1.50
30,000	33	1.70
40,000	25	1.70
50,000	20	1.70

TYPE 75A

75 WATT $6\frac{1}{2}'' \times \frac{3}{4}''$

Resis. Ohms	Current m. a.	List Price
5	3870	\$1.75
10	2740	1.75
15	2230	1.75
25	1730	1.75
50	1220	1.75
75	1000	1.75
100	865	1.75
200	610	1.75
250	550	1.75
300	500	1.75
400	430	1.75
500	385	1.75
750	315	1.75
800	305	1.75
1,000	275	1.75
1,250	245	1.75
1,500	225	1.75
2,000	195	1.75
2,500	173	1.75
3,000	158	1.75
3,500	146	1.75
4,000	137	1.75
4,500	129	1.75
5,000	122	1.75
6,000	111	2.00
7,000	103	2.00
7,500	100	2.00
8,000	97	2.00
9,000	91	2.00
10,000	87	2.00
15,000	71	2.00
20,000	61	2.00
25,000	55	2.00
30,000	50	2.25
35,000	43	2.25
40,000	37	2.25
50,000	30	2.25
60,000	25	2.50
70,000	21	2.50
100,000	15	2.50

TYPE 100A

100 WATT $6\frac{1}{2}'' \times 1\frac{1}{8}''$

Resis. Ohms	Current m. a.	List Price
5	4470	\$2.00
10	3160	2.00
25	2000	2.00
50	1410	2.00
100	1000	2.00
250	630	2.00
500	445	2.00
750	365	2.00
1,000	315	2.00
1,500	260	2.00
2,000	225	2.00
2,500	200	2.00
3,000	180	2.00
4,000	160	2.00
4,500	150	2.00
5,000	140	2.00
6,000	130	2.25
7,500	115	2.25
10,000	100	2.25
15,000	80	2.25
20,000	70	2.25
25,000	60	2.25
30,000	50	2.50
40,000	37	2.50
50,000	30	2.50
60,000	25	2.75
75,000	20	2.75
100,000	15	2.75

TYPE 160A

160 WATT $8\frac{1}{2}'' \times 1\frac{1}{8}''$

Resis. Ohms	Current m. a.	List Price
5	5650	\$2.50
10	4000	2.50
15	3265	2.50
25	2525	2.50
50	1785	2.50
100	1260	2.50
200	900	2.50
500	570	2.50
1,000	400	2.50
1,500	330	2.50
2,000	280	2.50
2,500	250	2.50
3,000	230	2.50
3,500	215	2.50
4,000	200	2.50
4,500	185	2.50
5,000	180	2.50
7,500	145	2.50
10,000	125	2.50
15,000	105	2.90
20,000	90	2.90
25,000	80	2.90
30,000	67	2.90
40,000	50	2.90
50,000	40	2.90
60,000	33	3.25
75,000	26	3.25
80,000	25	3.25
100,000	20	3.25

TYPE 200A

200 WATT $10\frac{1}{2}'' \times 1\frac{1}{8}''$

Resis. Ohms	Current m. a.	List Price
5	6320	\$3.00
10	4470	3.00
25	2825	3.00
50	2000	3.00
100	1400	3.00
250	900	3.00
500	630	3.00
1,000	450	3.00
1,500	365	3.00
2,000	315	3.00
2,500	280	3.00
3,000	260	3.00
3,500	240	3.00
4,000	225	3.00
4,500	210	3.00
5,000	200	3.00
7,500	165	3.00
10,000	140	3.00
15,000	115	3.50
20,000	100	3.50
25,000	90	3.50
30,000	82	3.50
40,000	62	3.50
50,000	50	3.50
60,000	42	3.50
75,000	33	3.50
100,000	25	3.50
125,000	20	3.75
150,000	16	3.75

LINE VOLTAGE REDUCERS



Catalog Number	Length Inches	Resis. Ohms	Load 115 volt Radio Set	List Price
507-109	1 1/2	25.	For 35-65 watt set on 115-140 volts	\$1.75
507-109A	1 3/4	10.	For 65-130 watt set on 115-140 volts	1.75
507-109B	2 1/4	4.5	For 130-285 watt set on 115-140 volts	2.10
507-109H	5 1/4	300.	For 60 watt set on 230 volts	2.75



**WARD
LEONARD**

FIXED RESISTORS

WIRE WOUND

Order by Type Number and Resistance Value.

10 WATT			TYPE 10F		
1 3/4" x 5/16"					
Ward Leonard Resistors are known for their accuracy, dependability, and long life. No brackets furnished.					
Resis. Ohms	Current m. a.	List Price	Resis. Ohms	Current m. a.	List Price
1	3160	\$0.40	1,750	75	\$0.40
3	1825	.40	2,000	70	.40
5	1415	.40	2,500	63	.40
10	1000	.40	3,000	53	.40
15	815	.40	4,000	50	.40
25	630	.40	5,000	45	.40
50	450	.40	7,500	36	.40
75	365	.40	10,000	30	.40
100	315	.40	12,500	24	.40
150	260	.40	15,000	20	.40
200	225	.40	20,000	15	.40
250	200	.40	25,000	12	.40
300	182	.40	30,000*	13	.40
400	158	.40	35,000*	11	.40
500	142	.40	40,000*	12	.40
600	129	.40	45,000*	10.5	.40
750	115	.40	50,000*	10	.40
800	110	.40			
900	105	.40			
1,000	100	.40			
1,250	89	.40			
1,500	81	.40			

TYPE 20F			20 WATT		
2" x 9/16"					
Made with a high grade resistance wire, wound on a special refractory tube. No Brackets furnished.					
Resis. Ohms	Current m. a.	List Price	Resis. Ohms	Current m. a.	List Price
1	4480	\$0.65	1,750	107	\$0.65
3	2570	.65	2,000	100	.65
5	2000	.65	2,500	90	.65
10	1410	.65	2,750	85	.65
15	1150	.65	3,000	80	.65
25	900	.65	4,000	70	.65
50	630	.65	5,000	65	.65
75	510	.65	6,000	55	.65
100	450	.65	7,500	50	.65
150	365	.65	10,000	40	.65
175	340	.65	12,500	32	.65
200	320	.65	15,000	26	.65
250	285	.65	25,000	16	.75
350	240	.65	35,000	11	.75
400	220	.65	40,000	10	.75
500	200	.65	50,000	8	.75
750	160	.65	60,000*	10.5	1.00
800	155	.65	70,000*	10	1.00
1,000	140	.65	75,000*	9.5	1.00
1,200	130	.65	100,000*	8.5	1.00
1,250	125	.65			
1,500	115	.65			

Mounting brackets are furnished with these sturdy wire wound heavy duty Vitrohm resistors.

HEAVY DUTY FIXED



TYPE 25F			TYPE 50F			TYPE 100F			TYPE 160F			TYPE 200F		
25 WATT			50 WATT			100 WATT			160 WATT			200 WATT		
2" x 3/8"			3 1/2" x 3/4"			6 1/2" x 1 1/4"			8 1/2" x 1 1/4"			10 1/2" x 1 1/4"		
Resis. Ohms	Current m. a.	List Price	Resis. Ohms	Current m. a.	List Price	Resis. Ohms	Current m. a.	List Price	Resis. Ohms	Current m. a.	List Price	Resis. Ohms	Current m. a.	List Price
15	1290	\$0.75	25	1415	\$1.10	5	4470	\$1.50	5	5650	\$2.00	5	6325	\$2.50
25	1000	.75	50	1000	1.10	10	3160	1.50	10	4000	2.00	10	4470	2.50
50	710	.75	75	815	1.10	25	2000	1.50	15	3260	2.00	25	2825	2.50
75	580	.75	100	705	1.10	50	1410	1.50	25	2525	2.00	50	2000	2.50
100	500	.75	150	575	1.10	75	1150	1.50	50	1785	2.00	75	1630	2.50
150	410	.75	200	500	1.10	100	1000	1.50	75	1460	2.00	100	1400	2.50
200	355	.75	250	445	1.10	150	815	1.50	100	1260	2.00	150	1150	2.50
250	315	.75	300	405	1.10	250	630	1.50	150	1035	2.00	250	900	2.50
300	290	.75	400	350	1.10	500	445	1.50	200	900	2.00	500	630	2.50
400	250	.75	500	315	1.10	750	365	1.50	250	800	2.00	750	515	2.50
500	225	.75	750	255	1.10	1,000	315	1.50	500	570	2.00	1,000	450	2.50
750	180	.75	1,000	225	1.10	1,250	285	1.50	750	460	2.00	1,500	365	2.50
850	170	.75	1,500	180	1.10	1,500	260	1.50	1,000	400	2.00	2,000	315	2.50
1,000	160	.75	2,000	160	1.10	2,000	225	1.50	1,500	330	2.00	2,500	280	2.50
1,250	140	.75	2,500	140	1.10	2,500	200	1.50	2,000	280	2.00	3,000	260	2.50
1,500	130	.75	3,000	130	1.10	3,000	180	1.50	2,500	250	2.00	3,500	240	2.50
2,000	110	.75	4,000	110	1.10	3,500	170	1.50	3,000	230	2.00	4,000	225	2.50
2,500	100	.75	5,000	100	1.10	4,000	160	1.50	3,500	215	2.00	4,500	210	2.50
3,000	90	.75	6,000	92	1.10	4,500	150	1.50	4,000	200	2.00	5,000	200	2.50
3,500	85	.75	7,500	82	1.25	5,000	140	1.50	4,500	185	2.00	7,500	165	2.50
4,000	80	.75	8,000	79	1.25	7,500	115	1.75	5,000	180	2.00	10,000	140	2.50
5,000	70	.75	10,000	70	1.25	10,000	100	1.75	7,500	145	2.00	15,000	115	3.00
6,000	65	.85	12,000	64	1.25	15,000	80	1.75	10,000	125	2.00	20,000	100	3.00
7,500	53	.85	12,500	56	1.25	20,000	70	1.75	15,000	105	2.40	25,000	90	3.00
8,500	47	.85	15,000	47	1.25	25,000	60	1.75	20,000	90	2.40	30,000	82	3.00
10,000	40	.85	20,000	35	1.25	30,000	50	2.00	25,000	80	2.40	35,000	71	3.00
15,000	27	.85	25,000	28	1.25	35,000	43	2.00	30,000	67	2.40	40,000	62	3.00
20,000	20	1.00	35,000	20	1.45	40,000	37	2.00	35,000	57	2.40	50,000	50	3.00
25,000	16	1.00	45,000	17	1.45	50,000	30	2.00	40,000	50	2.40	60,000	42	3.00
35,000	11	1.00	50,000	14	1.45	60,000	25	2.25	50,000	40	2.40	75,000	33	3.00
40,000	10	1.00	75,000	9	1.45	70,000	21	2.25	60,000	33	2.70	100,000	25	3.00
50,000	8	1.00	100,000	7	1.45	75,000	20	2.25	75,000	25	2.70	125,000	20	3.50
75,000	5	1.25	125,000	5	2.00	100,000	15	2.50	80,000	25	2.70	150,000	16	3.50
100,000	4	1.75							100,000	20	2.70			

CONTINENTAL RESISTORS

CONTINENTAL Bakelite and Ceramic Insulated Resistors

1000-Volt Insulation: Protects against Shorts to Sub-Panel and Wiring. Permanent Resistance Value.

M-Type Bakelite

M3	3 Watt	
2" x 1 1/8"		\$.30
M1	7 Watt	
1" x 3/8"		\$.20
M 1/2	1/2 Watt	
3/8" x 3/16"		\$.17
M 1/4	1/4 Watt	
5/16" x 3/32"		\$.15



Standard Stock Resistor Values

Available in Bakelite or Ceramic Insulation

50	17,500
100	20,000
150	25,000
200	30,000
250	35,000
300	40,000
400	50,000
500	55,000
600	60,000
750	70,000
	75,000
1,000	100,000
1,250	125,000
1,500	150,000
1,750	200,000
2,000	250,000
2,500	300,000
3,000	400,000
3,500	500,000
4,000	1,000,000
5,000	1,500,000
6,000	2,000,000
7,500	3,000,000
10,000	4,000,000
12,500	5,000,000
15,000	10,000,000

CONTINENTAL CARBON insulated resistors are now available in carbon and wire resistance elements, in bakelite, ceramic, glass, and vitreous enamel insulation according to their service requirements. Bakelite Insulated Type M resistors are recommended where space limits and insulation quality require a reliable, rugged, and small resistor capable of withstanding severe service as in auto, airplane, and marine radio equipment. Ceramic insulated Type D resistors are slightly larger than the bakelite units and dissipate heat over a wider area on overloads. In high gain amplifier circuits the large area of contact between the copper leads soldered to copper sprayed ends of the resistor assures permanent resistance value and absolute absence of molecular noise in the circuit.

D-Type Ceramic

D5	5 Watt	
3" x 1 1/8"		\$.50
D3	3 Watt	
2" x 3/8"		\$.30
D1	1 Watt	
1 3/4" x 1/4"		\$.20
D 1/2	1/2 Watt	
1" x 1/4"		\$.17



One Large Four Drawer Genuine Metal Cabinet and One Valuable Resistor Chart that tells what resistor to use with purchase of 70 Continental Certified Resistors **FREE**

TOTAL VALUE COMPLETE \$15.95—YOUR PRICE \$7.77

You get an all metal four drawer resistor cabinet 8" x 6" x 5 1/2" finished in olive green with a big stiff cardboard wall chart which solves every problem in Ohms Law at a glance. The chart is an invaluable aid in resistor service problems as are Continental Certified Resistors.

One each of these 35 resistors in 1 watt and 1 each in 1/2 watt—your choice of bakelite molded or ceramic insulated supplied in the following values:

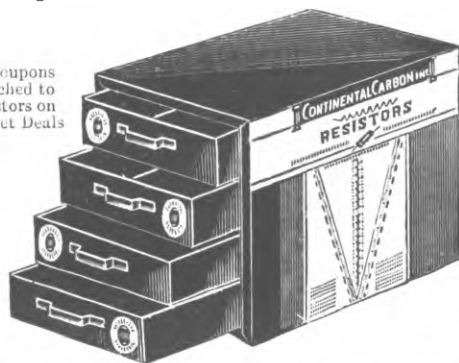
150	1,000	2,500	5,000	10,000	20,000	50,000	150,000
250	1,500	3,000	6,000	12,500	25,000	60,000	250,000
400	1,750	3,500	7,500	15,000	30,000	75,000	300,000
500	2,000	4,000	8,500	17,500	40,000	100,000	500,000

1, 2, and 3 megohms

Code	List Price
777M—70 Bakelite molded resistors with Cabinet and Chart	\$12.95
777D—70 Ceramic insulated resistors with Cabinet and Chart	12.95

Lucky Sevens "777" Cabinet Deal

No Coupons Attached to Resistors on Cabinet Deals



Type A - Precision Carbon Resistors

MADE IN ALL STANDARD STOCK RESISTOR VALUES



AVAILABLE IN: Type A 1/2—1/2 Watt—1" x 1/4" dia.
Type A1 — 1 Watt—1 1/2" x 1/4" dia.

A new type of carbon resistor, impregnated, hermetically sealed in glass, impervious to moisture, of the utmost stability, the A Type sets a new high standard of perfection for precision applications. Suitable for any 1-watt or 1/2-watt application, the A type is particularly recommended for high resistance voltmeter multipliers, critical photo-electric circuits which must be extremely stable, and in military and naval applications where the dependability of each component is most vital.

Types A1 and A 1/2—Tolerance ±2%.....	List Price \$0.50
Types A1 and A 1/2—Tolerance ±5%.....	List Price .30

Also made in
Type D1—1 Watt—Ceramic—Tolerance ±6%.....List Price .30



Tool Box Resistor Kit

"Metal-Pac" resistor kits include: Choice of twenty-five 1/2 or 1-watt standard CONTINENTAL CARBON insulated resistors, dial color code indicator, and a lacquered steel carrying case suitable for rough usage in your tool box.

Purchase CONTINENTAL molded carbonite resistors in this convenient form. Any assortment with any duplication of values from the longer list of stock values will be furnished on request. Standard kits contain our selection of 25 certified resistors:

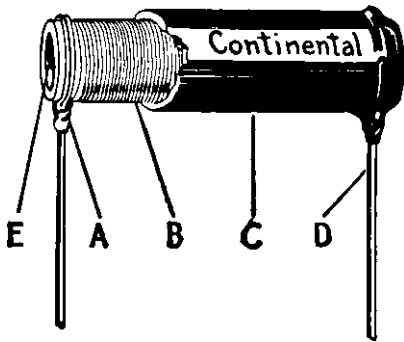
Code	Resistors	Insulation	List Price
125D1	25 1-watt	ceramic	\$5.00
125D 1/2	25 1/2-watt	ceramic	4.25
125M1	25 1-watt	bakelite	5.00
125M 1/2	25 1/2-watt	bakelite	4.25

CONTINENTAL RESISTORS

Type W—Cement Coated

Type WV—Blue Vitreous Enamel Wire Wound Resistors

Tolerance Limits are $\pm 5\%$



MADE IN
5, 10 AND 20
WATT SIZES

Continental vitreous enamel resistors set a new high standard for quality and features never before available. The outstanding features do not begin to describe the beautiful appearance and salability of this resistor which are as follows:

- A—Silver brazed joint insures rigidity and low resistance contact.
- B—Nichrome resistance wire.
- C—Specially developed vitreous enamel, having a blue mirror-like finish with extremely high insulation resistance.
- D—Unbreakable No. 18 Monel Wire leads $1\frac{1}{2}$ " long, possessing maximum resistance against acid, alkaline and salt water corrosion.
- E—Hermetically sealed from all atmospheric influence due to vitreous enamel coating on all inside surface of tube.
- F—Units will take overloads up to 150% of wattage rating without failure and are available in stock sizes and values as listed below.

Tolerance limits are $\pm 5\%$.

Type W Cement Coated Wire wound resistors are coated over the resistance wire with a special cement which resists cracking and chipping and stands up under severe heat conditions. Continental has made thousands of these cement coated wire wounds to the specifications of many manufactures with entire satisfaction. In many cases they are preferred to the old "stand by" vitreous enamel type. They are made under the same rigid material specifications as are the WV-vitreous enamel type except as to the coating.

Type	Type	Wattage	Size	Values	List Price
W20	WV20	20 watts	2" x $\frac{5}{8}$ "	1 to 50,000 ohms	\$0.65
W10	WV10	10 watts	1 $\frac{3}{4}$ " x $\frac{3}{8}$ "	1 to 25,000 ohms	.40
W5	WV5	5 watts	1 $\frac{1}{4}$ " x $\frac{3}{8}$ "	1 to 15,000 ohms	.30

Continental "Voltacon"

LINE VOLTAGE REGULATOR FOR RADIOS



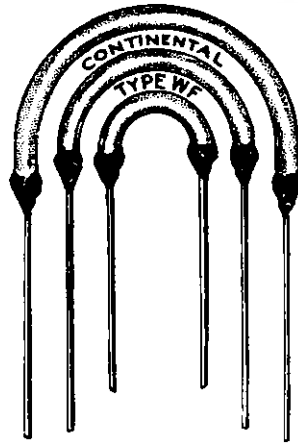
To protect radios from overvoltage Continental "Voltacon" in the line will reduce the voltage to a safe value. The "Voltacon" is a plug-in unit with three adjustments.

- No. 3 position for 125 to 130 volts.
- No. 2 position for 120 to 125 volts.
- No. 1 position for 115 to 120 volts.

Can be used on radios of 4 to 10 tubes or on any other electric device consuming 100 watts or less.

"VOLTAICON" CODE V-20 List Price \$1.25

Flexible Wire Wound Resistors



Continental type WF Flexible resistors are wound with Nichrome wire on an asbestos core and covered with Fibreglas sleeving. Fireproof and charproof throughout its construction this Flexible resistor will withstand enormous overloads in ratio of 2 to 3 times normal rating.

Terminals are fastened to wound resistance core by wrapping, compressing and braze soldering to give a permanent strong contact. The Fibreglas sleeving covers the terminal joints to make an entire insulated unit with no exposed metal end caps. These Flexible resistors can be used for heaters in contact with metal cans or chucked away in close positions.

Stock ratings are 1, 3 and 5 watt sizes but on special order can be made in 10 watt lengths or higher. A safe figure to use in 2 watts or less per inch of flexible wound resistance core. R.M.A. color coded for value. Standard Tolerance $\pm 10\%$.

Type	Wattage	Size	Values	List Price
WF1	1 watt	1 $\frac{1}{4}$ " x $\frac{3}{16}$ " dia.	1 to 3500 ohms	\$0.20
WF3	3 watt	2 $\frac{1}{4}$ " x $\frac{3}{8}$ " dia.	1 to 5000 ohms	.30
WF5	5 watt	3 $\frac{1}{4}$ " x $\frac{3}{8}$ " dia.	1 to 8000 ohms	.30

Ceramic Tube Insulated Wire Wounds



A new type of wire wound resistor has been developed with Nichrome resistance wire winding entirely on the inside diameter of a ceramic tube. The resistance wire is sealed in ceramic insulation. This unit can be mounted in close spaces or in contact with other parts. The heavy walled ceramic tube protects the winding from any outside shorts. Another feature is the overload rating of these units taking a 150% overload with ease. These resistors are suitable for meter multipliers and resistance shunts. They can be made in 2% tolerance if desired on special order. Standard Tolerance is $\pm 5\%$.

Type	Wattage	Size	Values	List Price
WC1	1 watt	$\frac{7}{8}$ " x $\frac{3}{32}$ "	1 to 3500 ohms	\$0.20
WC3	3 watt	1 $\frac{1}{4}$ " x $\frac{3}{32}$ "	1 to 5000 ohms	.30
WC5	5 watt	1 $\frac{3}{4}$ " x $\frac{3}{32}$ "	1 to 8000 ohms	.30

CONTINENTAL SUPPRESSORS

AUTO-RADIO SUPPRESSORS AND FILTER UNITS

CONTINENTAL Suppressors have been subjected to years of laboratory development and actual road service. They effectively remove noise interference from spark discharge at the plugs and high-tension distributor—yet do not in any way affect the motor car ignition system.

They have mechanical strength to stand the most severe service. The resistance value has been scientifically determined and is not changed after years of the most adverse conditions. Sparking across the terminals is eliminated by careful shaping of the electrodes and cases.



Code WS5

Wheel Static Suppressors

LIST PRICE—

Both Types, Per Pair.....\$0.30



Code WS6



T-14



T-15

Ford Distributor Suppressors

List Price

Type T-14—For 1935 and previous models.....\$0.30

Type T-15—For Ford V8-1936 and 1937 models..... .30

Type T-17 Universal type with insulating sleeve

Type T-17 is T-15 slipped into a bakelite insulating tube of the same external diameter as T-14, to fit 1935 and previous models30

New Auto-Radio Vibrator Condensers



TAE

Buffer condensers rated for 1500 volts D.C. and flash tested at 3000 volts. Type T are tubular and Type Y are rectangular in sealed metal containers.

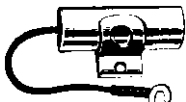


VAE

Code	Capacity	Size	List Price
TAE11	.01	1 5/8" x 3/4" dia.	\$0.35
TAE12	.02	1 5/8" x 5/8" dia.	.35
VAE11	.01	1" x 7/8" x 3/8"	.45
VAE12	.02	1" x 7/8" x 3/8"	.45
VAE13	.03	1" x 1 1/8" x 3/8"	.45
VAE14	.04	1" x 1 1/8" x 3/8"	.45

Continental Auto-Radio Filter Condensers

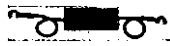
This new line of equipment has been specially designed to give the serviceman a means of easily eliminating every cause of noise interference in auto-radio installation—at the actual source of interference.



GB05F6



GB025, GB05, GB1



GB05C

Code	Application	Capacity	Size	List Price
GB025	Generator and coil	.25	2 1/8" x 3/4"	\$0.40
GB05	Generator and coil	.5	2 1/8" x 3/4"	.50
GB1	Generator and coil	1.0	2 1/4" x 1"	.70
GB05C	Ammeter to ground	.5	2" x 7/8"	.50
GB05H	Dome light filter	.5	3" x 1"	.80
GB05HC	Dome light filter, can type	.5	3 3/8" x 1 1/4"	.80
GB05DH	Dome light filter, can type	.5-.5	3 3/8" x 1 1/4"	1.00
GB05F	Ford V-8 coil	.5	2 1/8" x 3/4"	.60
GB05F6	Ford V-8 coil—1936	.5	2 7/8" x 3/4"	.50



GB05H



GB05F



GB05DH, GB05HC

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Spark Plug Suppressors

ALL MODELS List Price \$0.30



Code S-21 Universal Spark Plug Suppressor— with "U" terminal. 5000 ohms.



Code S-27 Suppressor—Thread will fit all spark plugs. Most universal type yet devised. Ferrule nut is removable. 5000 ohms.



Code S-20A Spark Plug Suppressor—for Buick, Packard and Chrysler cars. Takes place of terminal on ignition cable. 5000 ohms.



Code S-19 Spark Plug Suppressor—Snaps on to spark plug. 5000 ohms. Vertical mounting.



Code S-23 Spark Plug Suppressor—Flexo-Terminal type. Can be bent to any angle, snaps on to spark plug.

Distributor Suppressors

ALL MODELS List Price \$0.30



Code C-11 Cable Suppressor—meets requirements where it is necessary to cut ignition cable. 10,000 ohms.



Code T-13 Distributor Suppressor—fits all distributors. 10,000 ohms. Cable screws into housing making a watertight and non-loosening connection.



Code T-20 Distributor Suppressor—Cable clip snaps into suppressor. 10,000 ohms. Not necessary to remove clip on cable and therefore suppressor can be quickly removed for ignition testing purposes.

M-23

CONTINENTAL CONDENSERS

Paper Condensers for Replacing Electrolytics in Cardboard and Metal Cases



CONTINENTAL Carbon Models E and L condensers are high quality, paper dielectric capacitors built in shapes and sizes equivalent to electrolytic capacitors commonly found in radio receivers. Models E and L are flash tested at 3 times their d-c working voltage and have the advantage of low power factor at 60 cycles. They are non-inductive, non-polarized, and are of permanent capacity. No active chemicals are used which could cause corrosion of the foil or leakage. The tabulations below show the actual capacity in microfarads and the rated sizes of electrolytic condensers occupying the same dimensions. Recommended for use on d.c. and rectified a.c. only. Model E, d-c working volts, 600; peak volts, 1000. Model L, d-c working volts, 475; peak volts, 600.

Data and Prices on Models E & L Condensers, Cardboard Containers—Furnished with Six-Inch Wire Leads

E-Type 600 Volts dc Code List Price	L-Type 475 Volts dc Code List Price	Capacity in Mfds.	Equiva- lent Electro- lytic	Size of both E & L Condensers in Inches
EE2 \$.95	EL2 \$.75	1.2	2	2 1/2 x 1 3/8 x 1 1/2
EE4 1.15	EL4 .85	2.4	4	2 1/2 x 1 3/8 x 1 1/2
EE8 1.50	EL8 1.05	4.8	8	4 3/8 x 1 3/8 x 1 1/2
EE44 1.85	EL44 1.40	2.4-2.4	4-4	4 3/8 x 1 3/8 x 1 1/2
EE48 2.20	EL48 1.65	2.4-4.8	4-8	4 3/8 x 1 3/8 x 1 1/2
EE88 2.45	EL88 1.80	4.8-4.8	8-8	4 3/8 x 1 3/8 x 2 1/2

Condensers in Metal Cans, Inverted Stud Mounting, Six-Inch Leads Insulated from Can

IE4 \$1.40	IL4 \$1.05	2.4	4	3 3/8 x 1 3/8 Dia.
IE8 1.70	IL8 1.30	4.8	8	4 3/8 x 1 1/2 Dia.

CARDBOARD CASED GENERAL UTILITY CONDENSERS TYPE P

Non-inductive rugged cased condensers for all filter and by-pass circuits. Sturdy container vacuum impregnated with heat-resistant moisture-proof wax gives the Type P Condenser adequate mechanical protection. Far superior to ordinary wax-coated replacement sections. Conservatively rated, convenient size, and attractively priced—these CONTINENTAL Condensers are dependable capacity units.

Type P Condensers are particularly recommended for use in Power Amplifiers and Theater Sound Systems where long periods of operation require superior dielectric strength.



NEW TUBULAR Replacement Condensers



Non-inductive tubular condensers in cardboard vacuum impregnated with moisture-proof wax. Bare flexible tinned leads. 2 3/8 in. long. Available in all standard sizes.

Code	Mfds.	D-C Working Voltage	Size		List Price
			Len. "	Dia. "	
TF31	.0001	600	1 1/4	7/8	\$0.15
TF325	.00025	600	1 1/4	7/8	.15
TF21	.001	600	1 1/4	7/8	.15
TF22	.002	600	1 1/4	7/8	.15
TF25	.005	600	1 1/4	7/8	.15
TF11	.01	600	1 1/4	7/8	.15
TF12	.02	600	1 1/4	7/8	.15
TF15	.05	600	1 1/4	7/8	.20
TF01	.1	600	1 1/4	7/8	.25
TF025	.25	600	1 1/4	1	.35
TF05	.5	600	1 1/4	1 1/4	.50
TD25	.005	400	1 1/4	7/8	.15
TD11	.01	400	1 1/4	7/8	.15
TD12	.02	400	1 1/4	7/8	.15
TD15	.05	400	1 1/4	7/8	.15
TD01	.1	400	1 1/4	7/8	.20
TD025	.25	400	1 1/4	7/8	.25
TD05	.5	400	1 1/4	1 1/4	.35
TD1	1.0	400	1 1/4	1 1/4	.50

"W" Type Transmitting Condensers

ESPECIALLY DESIGNED FOR COMMERCIAL, POLICE AND AMATEUR TRANSMITTERS



The Continental Type W transmitting condensers are wax impregnated, non-inductive, conservatively rated and will stand severe service. Power factor is extremely low (1/2 of 1%) and reduces heating to a minimum. Enclosed in drawn metal containers. Glazed white porcelain stand-off type insulators. For continuous duty on A.C., restrict to not over 25% of D.C. working voltage.

Code	Cap. Mfds.	D.C. Working Voltage	Size in Inches	List Price
WAJ1	1	1000	5 x 2 x 2	\$1.75
WAJ2	2	1000	5 x 2 1/2 x 2 1/2	2.50
WAJ4	4	1000	5 x 2 1/2 x 2 1/2	4.50
WAE1	1	1500	5 x 2 1/2 x 1 3/4	2.25
WAE2	2	1500	5 x 2 1/2 x 2 1/4	3.25
WAE4	4	1500	5 x 4 x 8	5.00
WBJ1	1	2000	5 x 2 1/2 x 1 3/4	2.90
WBJ2	2	2000	5 x 2 1/2 x 2 1/4	4.00
WBJ4	4	2000	5 x 4 x 8	6.00

FOR FULL RATED D.C. OR AT 25% OF D.C. WORKING

VOLTAGE ON A.C.

Code	Cap. Mfds.	D.C. Work. Voltage	Dimensions-In. H. W. T.	List Price
PD025	0.25	400	2 1/2 x 1 3/8 x 3/8	\$0.40
PD05	0.5	400	2 1/2 x 2 x 3/8	.45
PD1	1	400	4 x 2 x 3/8	.75
PD2	2	400	4 x 2 x 1	1.00
PF01	0.1	600	2 1/2 x 1 3/8 x 3/8	.45
PF025	0.25	600	2 1/2 x 1 3/8 x 3/8	.50
PF05	0.5	600	2 1/2 x 2 x 3/8	.65
PF1	1	600	4 x 2 x 3/8	.95
PF2	2	600	4 x 2 x 1 1/2	1.40
PF4	4	600	4 3/8 x 2 1/2 x 1 3/8	2.25
PAJ01	0.1	1000	2 1/2 x 2 x 3/8	.50
PAJ05	0.5	1000	4 x 2 x 3/8	.85
PAJ1	1	1000	4 x 2 x 1	1.25
PAJ2	2	1000	4 3/8 x 2 1/2 x 1 3/8	2.00

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CONTINENTAL FILTERNOYS

For Elimination of Electrical Radio Interference

Filternoys units reduce or eliminate man-made static! With the development of ultra sensitive receivers, the problem of interference elimination has become a major factor in the sale and servicing of these radios. Vacuum sweepers, electric refrigerators, cake mixers, and other kitchen gadgets, electric shavers, sewing machines, and a host of other items all contribute their share to spoiling good reception. Every buzz, snap, or crackle heard on a new radio lessens the chances of a sale, but these same disturbances open the path for the alert dealer to sell "noise elimination service" along with the radio—and at a profit!

The offices of doctors, lawyers, dentists, and professional men—where radio provides entertainment and relaxation for waiting clientele—offer a lucrative market to radio servicemen who have the ability to locate man-made radio interference and quiet it with CONTINENTAL CARBON Filternoys devices. Filternoys are of three types: **Suppression** to block radiation of interference at its source; **Rejectors** to prevent noise from entering a receiver's power supply; and **Diverters** intended for use anywhere along a power line to divert interference to the ground. Filternoys are simple to install and profitable to sell. Never be without them in stock.

Filternoys F1005DH and F505DH

Are Used at Electrical Devices to Eliminate Radio Interference

SUPPRESSION TYPE

Two chokes and two condensers are contained in this heavy duty unit intended for motors, neon signs, and on the individual circuits of a store or residence where it is necessary to exclude interference following the power lines. It may also be used on oil burner circuits in conjunction with OB15 oil burner ignition suppressors. 10-Ampere capacity. Size 4 3/8" by 3" diameter. 110 to 220 volts, a.c. or d.c.



Filternoys F1005DH List Price \$5.00

SUPPRESSION TYPE

Contains two medium size choke coils and two condensers suitable for suppression of noise from heater pads, flat-irons, domestic refrigerators, diathermy and dental machines, mangles, hair driers, etc. Handy plug-in type with soft rubber non-breakable plug on 36" cord. Suitable for devices on 110-120 volts drawing less than 550 watts. Size 4 3/8" by 2 1/2" diameter. With flexible ground wire, a.c. or d.c.



Filternoys F505DH List Price \$4.00

Filternoys F05D - Diverter Type

Suitable for Across Brush Arms of Large KW Generators

Filternoys Diverter FO5D is a dual capacitor designed to resonate a power supply line to a point below broadcast frequencies and to divert interference to ground. For voltages up to 220 regardless of watts load. Size 4 3/8" x 2 1/2" diameter. Wire leads. Low power factor.



F05D List Price \$2.50

Filternoys G01DH

SUPPRESSION TYPE

A wire-in suppressor with dual chokes and two condensers with a grounded frame. Suitable for equipment having grounded frame or a connection to metal BX wiring conduit. For diathermy and dental machines where the G01DH unit may be mounted within the interfering device and for small motors of ex-



haust fans, pumps, and compressors. Size 3 3/8" by 1 1/4" diameter, 6-inch leads, 300 watts, a.c. or d.c., 110-130 v.

Filternoys G01DH List Price \$1.50

Filternoys R305DH and R01DH

Are Used at Radios to Block Incoming Line Interference

REJECTOR TYPE

Contains two chokes and two condensers properly connected to block noise from entering a radio receiver through its power line circuit. Supplements a noise rejecting aerial system for complete quieting. Intended for stores, hospitals, or homes where line interference is particularly severe. 660-Watt capacity on 110 to 220-volt a.c. or d.c. lines. Size 4 3/8" by 2 1/2" diameter. Plug-in type, with ground wire.



Filternoys R305DH List Price \$3.00

REJECTOR TYPE

A junior size line noise rejector with two chokes and two condensers for keeping moderate line interference out of a radio power line circuit. R01DH helps particularly where traction line noise is picked up by house wiring and conducted to the radio outlet. Plug-in type for 110-120 v. a.c. or d.c. line. 5-Amp. capacity. Size 2 5/8" by 1 3/8" diam. Thoroughly insulated for safe handling.



Filternoys R01DH List Price \$1.00

CONTINENTAL FILTERNOYS

Filternoys F01DH

Most Popular and Universal Plug-in Type

FOR ELECTRIC RAZORS

Counter Display Cards Available

SUPPRESSION TYPE

Handy plug-in type suppressor with two r-f chokes, two condensers, and a ground lead for use on electrical devices of 300 watts or less, creating interference of intermittent or temporary character, such as a sewing machine motor, small electric washing machines, electric shavers, drink mixers, cash registers, adding machines, or electric typewriters. Size 2 5/8" by 1 3/8" diameter. 300-Watt capacity on 120 volts, a.c. or d.c.



Filternoys F01DHList Price \$1.00

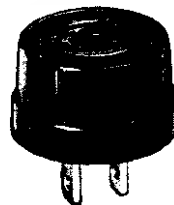
FREE! Attractive Counter Display Card with 24 - F18 Filternoys

Code 24-F18—List Price \$12.00



Filternoys Diverter F18 is a compact 0.1 mid capacitor in a conveniently small bakelite plug-in coupler for use across domestic power lines in which the neutral wire is grounded. The capacitor diverts interference from the high potential side of the power line to the grounded neutral side. Use on floor or table lamps, cigarette lighters, and the radio.

F18List Price \$0.50



F18

Filternoys G01D and G14T

Designed to Be Mounted directly on Small Electrical Devices

Filternoys Diverter G01D—Dual capacitors in a grounded container for any size electric motor operating on 120 volts or less. Through making use of the field coils as chokes, this is a most effective method to silence a noisy a.c. or d.c. motor. Size 2 1/8" by 3/4" diameter.

G01DList Price \$0.50



Filternoys Diverter G14T—Triple capacitors in a circuit which permits its use with all hand-operated motor driven devices without danger of shock. Particularly applicable to vacuum cleaners, flat-irons, etc. Size 1 1/2" by 5/8". Flexible leads for direct connection.

G14TList Price \$0.50

Oil Burner Suppressor

Filternoys Suppressor OB15, carbon element type, intended for use only with the high tension spark ignition of oil or gas burning heating systems. Must be connected in series with each line to the spark gap. Size of the suppressor 3 1/2" x 1 1/8" diameter. Universal connections at both ends for solderless contact.

OB15List Price \$1.50



Aerial Substitute

R21H, for broadcast and short wave reception. A practical substitute aerial for use where a regular antenna is difficult to install or cannot be used. Diverts to the receiver signals picked up by the electric lighting system. Ineffective where electric system is completely shielded in conduit. Size 1 3/4" x 1 3/8".

Filternoys R21HList Price \$0.50



CONTINENTAL CARBON INTERFERENCE CHART

Cause	Filternoys Unit	Cause	Filternoys Unit	Cause	Filternoys Unit	Cause	Filternoys Unit
Adding Machines	F505DH or F01DH	Dish Washers	F505DH	Hair Driers	F01H	Printing Presses	G01D or F05D
Aerators	F01H	Door Bells	G01DH or F05D	Heating Pads	F505DH	Razors, Electric	F01DH
Barbers' Clippers	F01H	Drink Mixers	F01DH	Malted Milk Shakers	F01DH	Refrigerators	F505DH
Beer Pumps	F1005DH	Electric Typewriters	F01DH or F18	Mangles	F505DH	Sewing Machines	G14T
Cash Registers	F01H	Fans	G01D or F01DH	Massage Exercisers	F505DH	Sign Flashers	F1005DH
Compressors, Air	F1005DH	Flat-irons	F505DH	Motors, Repulsion	F05D	Stoker Motors	F1005DH
Dental Motors	G01DH or G01D	Food Mixers	F01H	Motors, Series Type	G01D or F05D	Vacuum Cleaners	G14T
Dental Lathes	G01DH or G01D	Fruit Juicers	F505DH	Neon Signs	F1005DH	Violet-rays	F505DH
Diathermy Machines	G01DH or G01D	Generators	F05D	Oil Burners	OB15 or OB14	Washing Machines	F505DH
Dictographs	G14T	Hand Drills	G01D or F01DH	Ozonators	F01H	X-rays	F1005DH

UNIVERSAL SIZE



CONTROLS Type D



NEW

USE THEM FOR EVERY NEED!

IRC Type D Universal "All-Purpose" Controls are small enough to fit almost anywhere, large enough for real dependability. Use them for any need, whether replacing "midgets" or the larger sizes. Tap-in Shafts handle various shaft requirements, make installations easier and often make it possible to use a standard control instead of a more costly "special."



A small stock of Type D Controls equips you for the great majority of jobs. They are the only small-size controls having every engineering feature of the larger size IRC Type "CS" Controls. These include the IRC 5-Finger "Knee Action" Element Contactor; the IRC Spiral Spring Connector which eliminates one sliding, metal-to-metal contact; the IRC Metalized-type Resistance Element and the IRC Thrust Washer which eliminates shaft end play.

PRICES

Single Controls, without switch	List \$1.00	Net \$0.60
**Standard Tapped Controls, without switch	1.50	0.90
Prices include Shaft A packed with control.		
Other shafts available extra as follows:		
	List	Net
Shaft B (length attached 3 1/8")	\$0.35	\$0.21
Shaft C (length attached 4")	0.25	0.15
Shaft D (length attached 4")	0.25	0.15

SWITCHES for "D" Controls

	List	Net
No. 41 S.P., S.T.	\$0.50	\$0.30
No. 42 D.P., S.T.	0.60	0.36
No. 43 S.P., D.T.	0.60	0.36
No. 45 Four Point	0.60	0.36
No. 47 S.P., S.T. with dummy lug	0.60	0.36

EXTENSION SHAFTS

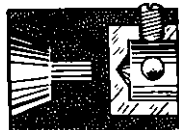


These shafts attach to regular shafts, thus extending length to any needed size, and frequently making it possible to use standard controls for "special" jobs.

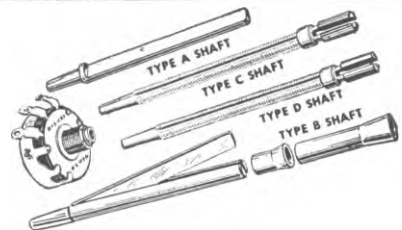
	List	Net
Shaft No. 41—4" x 1/4" dia. x 1/32" flat	\$0.30	\$0.18
Shaft No. 42—4" x 1/4" dia. x 1/32" flat	0.30	0.18
Shaft No. 43—4" x 1/8" dia. x 1/64" flat	0.30	0.18
Shaft No. 44—8" x 1/4" dia. x 1/32" flat for 4" length	0.30	0.18

INSULATED COUPLERS

For use with standard controls to meet "special" shaft requirements.
Coupler No. C1—for use with tongued type shaft.
Coupler No. C2—for use with square type shaft used by Motorola.
Each shaft, list 25c, Net 15c



IRC TAP-IN SHAFTS STAY PUT!



Don't Pull Loose — Don't Vibrate Loose!

UNIVERSAL Type "D" CONTROLS

Resistance	IRC Type No.	Taper	Usual Application
500 Ohms	D11-103	A	Potentiometer Voltage Divider
1,000 "	D11-108	A	Potentiometer Voltage Divider
2,000 "	D11-110	A	Potentiometer Voltage Divider
3,000 "	D11-112	A	Potentiometer Voltage Divider
4,000 "	D11-113	A	Potentiometer Voltage Divider
5,000 "	D11-114	A	Potentiometer Voltage Divider
5,000 "	D13-114	C	Antenna Control
7,500 "	D11-115	A	Potentiometer Voltage Divider
10,000 "	D11-116	A	*Antenna Grid Bias Control
10,000 "	D13-116	C	Antenna Control
10,000 "	D14-116	D	*Antenna Grid Bias of 2 Tubes
10,000 "	D16-116	F	*Antenna Grid Bias of 1 Tube
15,000 "	D14-118	D	*Antenna Grid Bias Control
15,000 "	D16-118	F	*Antenna Grid Bias Control
20,000 "	D16-119	F	*Antenna Grid Bias Control
25,000 "	D11-120	A	Potentiometer Voltage Divider
25,000 "	D14-120	A	*Grid Bias Control
25,000 "	D16-120	F	Antenna Control
50,000 "	D11-123	A	Potentiometer Voltage Divider
50,000 "	D13-123	C	Tone Control
50,000 "	D14-123	D	*Antenna Grid Bias
75,000 "	D13-125	C	Tone Control
75,000 "	D14-125	D	*Grid Bias Control
100,000 "	D11-128	A	Potentiometer Voltage Divider
100,000 "	D13-128	C	Tone or Audio Circuit Control
200,000 "	D11-129	A	Potentiometer Voltage Divider
200,000 "	D14-129	D	*Grid Bias Control
250,000 "	D11-130	A	Potentiometer Voltage Divider
250,000 "	D13-130	C	Tone or Audio Circuit
250,000 "	D14-130	D	*Grid Bias Control
350,000 "	D13-132	C	Tone or Audio Circuit Control
500,000 "	D11-133	A	Potentiometer Voltage Divider
500,000 "	D13-133	C	Tone or Audio Circuit Control
500,000 "	D14-133	D	R. F. Plate Control
1.0 Meg.	D13-137	C	Tone or Audio Circuit Control
2.0 "	D13-139	C	Tone or Audio Circuit Control
3.0 "	D13-140	C	Tone or Audio Circuit Control
5.0 "	D11-141	A	Potentiometer Voltage Divider
7.0 "	D11-142	A	Potentiometer Voltage Divider
10.0 "	D11-143	A	Potentiometer or Rheostat
250,000 Ohms	**D13-130X	A	Tapped for A. V. C.
250,000 "	**D18-130X	H	Tapped Tone Compensation
350,000 "	**D18-132X	H	Tapped Tone Compensation
500,000 "	**D13-133X	H	Tapped Tone Compensation
1.0 Meg.	**D13-137X	H	Tapped Tone Compensation
1.0 "	**DVC-539X	A	Fader Control for fading out one circuit into another
2.0 "	**D13-139X	H	Tapped Tone Compensation
2.0 "	**D18-139X	Spec.	Tapped Tone Compensation

* Supplied with 300 ohm 1/2-watt resistor.
** Indicates tapped control.

VOLUME CONTROLS

NEW



Handles 60% to 75% of all control replacements

MASTER RADIOTRICIAN'S CONTROL CABINET with Type D Universal Controls

Now, for the first time, you can purchase a stock of only 18 Controls, 6 switches and 5 special, extra shafts . . . and be prepared for quick efficient service on more than two-thirds of the radios you are called upon to repair!

You save time, because it is no longer necessary to order a control every time you need one! You simplify installations because IRC Type D All-Purpose Controls with their Tap-in Shafts are easier to install and can be used universally to replace midget size or larger, old-style controls! You save money—and you assure your customer of a first-class job!

Best of all, you pay only the standard price for the controls, switches and shafts. The handy new IRC Master Radiotrician's Control Cabinet, as illustrated, is included with your purchase at not one cent of extra cost.

Cabinet is of all-metal construction. It is 14½" long, 7¾" high and 4¼" deep, weighs approximately 6 lbs. complete. IRC Control numbers are marked underneath each compartment so you can tell at a glance just what values should be reordered. Three drawers supply ample space for shafts, switches or other spare parts. Front metal cover snaps securely shut for carrying, or may be removed completely.

HERE IS WHAT YOU GET!

The IRC Master Radiotrician's Cabinet is factory-packed with the following 18 Type D All-Purpose Controls, switches and special shafts.

IRC Control Type No.	Resistance	Purpose	IRC Control Type No.	Resistance	Purpose
2—D13-133	500,000	A	1—D13-133 X	500,000	F
1—D11-116	10,000	B	1—DC13-133 X	500,000	G
1—D11-123	50,000	C	1—D13-137	1.0	A
1—D11-128	100,000	C	1—D13-137 X	1.0	F
1—D11-133	500,000	C	1—D13-139	2.0	A
1—D13-123	50,000	D	1—D13-139 X	2.0	F
1—D13-128	100,000	A	1—D14-116	10,000	H
1—D13-130	250,000	A	1—D16-119	20,000	B
1—D13-130 X	250,000	E			

A—Tone or Audio Circuit Control
B—Antenna Grid Bias Control
C—Potentiometer Voltage Divider
D—Tone Control

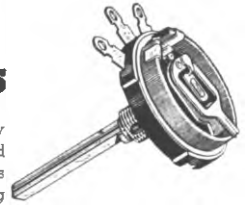
E—Tapped for A. V. C.
F—Tapped for Tone Compensation
G—Friction Clutch Auto Radio Type
H—Antenna Grid Bias of 2 Tubes

Switches: 5—No. S.P.S.T.; 1—No. D.P.S.T.
Shafts: 1—Type B Auto Radio; 2—Type C with slotted, knurled terminals; 2—Type D with slotted, unknurled terminals.

List Price of 18 Controls, 6 Switches and 5 Special (Extra) Shafts, \$24.95. **NET PRICE \$14.97**

THE CABINET IS INCLUDED FREE!

Type W WIRE WOUND CONTROLS



A vastly superior unit that sets new standards of durability, accuracy and ruggedness. Tight, uniform windings assure utmost accuracy. Spiral Spring Connector between terminal and rotor arm. Dimensions same as for Standard CS Controls. 2 watts. Linear (or "A") taper.

List Price without switch, \$1.00. **Net \$0.60**

IRC Control No.	Resistance Ohms	Max. Current (Amps.)	IRC Control No.	Resistance Ohms	Max. Current (Amps.)
W-2	2	1.000	W-100	100	.142
W-3	3	.815	W-200	200	.100
W-5	5	.630	W-300	300	.083
W-6	6	.560	W-400	400	.071
W-8	8	.500	W-500	500	.063
W-10	10	.450	W-750	750	.052
W-15	15	.370	W-1000	1000	.045
W-20	20	.320	W-2000	2000	.032
W-25	25	.285	W-3000	3000	.026
W-30	30	.260	W-4000	4000	.022
W-40	40	.225	W-5000	5000	.020
W-50	50	.200	W-7500	7500	.016
W-60	60	.183	W-10000	10000	.014
W-75	75	.164			

Type W SWITCHES

	List	Net		List	Net
No. 51—S.P., S.T.	\$.50	\$0.30	No. 55—Four Point.	\$.60	\$0.36
No. 52—D.P., S.T.	.60	.36	No. 56—S.P., D.T., at clockwise position	.60	.36
No. 53—S.P., D.T.	.60	.36	No. 57—S.P., S.T. with dummy lug.	.60	.36
No. 54—Three Point	.60	.36			

Type D AUTO RADIO CONTROLS WITH FRICTION CLUTCH

Designed for practically any auto radio application. Controls have friction clutch drive-arm and are equipped with a special shaft for use where either a slotted or tongued type shaft is required. Instructions tell how to cut shaft for either application. **Switches cannot be used with friction clutch controls.** Sizes same as Type D Controls.

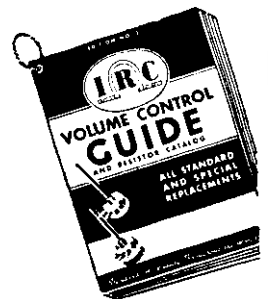
List Price complete, \$1.50. **Net \$0.90**

IRC Control No.	Total Resistance	Resistance To Tap
DC13-130	250,000 Ohms	No Tap
DC13-130X	250,000 "	Tap 50M
DC13-133	500,000 "	No Tap
DC13-133X	500,000 "	Tap 125M
DC13-137	1.0 Meg.	No Tap
DC13-137X	1.0 "	Tap 250M
DC13-139	2.0 "	No Tap
DC13-139X	2.0 "	Tap 500M



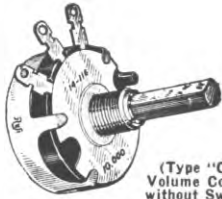
IRC GUIDE and SUPPLEMENT

Edition No. 2 of the IRC Volume Control Replacement Guide, and its Supplement, available free to bonafide servicemen—include complete information on control replacements up to and including 1940 model sets.

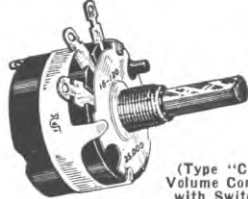


VOLUME CONTROLS

Type CS VOLUME CONTROLS



(Type "CS"
Volume Control
without Switch)



(Type "CS"
Volume Control
with Switch)

Type CS Controls are for use in most general requirements. The 45 standard values make it possible to secure from jobber stocks, at minimum prices, dependable units that are easily adapted for a large percentage of all replacements. Standard controls are recommended wherever resistance value and taper are essentially correct and the only thing needed to make them mechanically suitable is to cut the shaft or, in some cases, to ground a certain terminal or attach a switch. 3" shafts with flat the entire length.

Type CS CONTROL PRICES

Standard Single Controls—Without switch (plain cover),
List \$1.00, **Net \$0.60**
†Standard Tapped Controls—Without switch (plain cover),
List \$1.50, **Net \$0.90**

SWITCHES for CS CONTROLS

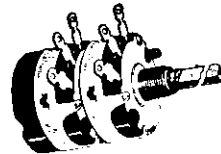
	List	Net
No. 21 S.P., S.T.	\$0.50	\$0.30
No. 22 D.P., S.T.	0.60	0.36
No. 23 S.P., D.T.	0.60	0.36
No. 24 Three point	0.60	0.36
No. 25 Four point	0.60	0.36
No. 26 S.P., D.T. at clockwise position	0.60	0.36
No. 27 S.P., S.T. with dummy lug	0.60	0.36

Type CS CONTROLS

Resistance	Tap	Type No. No Switch	Taper	Usual Application
500 Ohms	11-103	A	Potentiometer Voltage Divider
1,000 "	11-108	A	Potentiometer Voltage Divider
2,000 "	11-110	A	Potentiometer Voltage Divider
3,000 "	11-112	A	Potentiometer Voltage Divider
4,000 "	11-113	A	Potentiometer Voltage Divider
5,000 "	11-114	A	Potentiometer Voltage Divider
5,000 "	13-114	C	Antenna Control
7,500 "	11-115	A	Potentiometer Voltage Divider
10,000 "	11-116	A	*Antenna Grid Bias Control
10,000 "	13-116	C	Antenna Control
10,000 "	14-116	D	*Antenna Grid Bias of 2 Tubes
10,000 "	16-116	F	*Antenna Grid Bias of 1 Tube
15,000 "	14-118	D	*Antenna Grid Bias Control
15,000 "	16-118	F	*Antenna Grid Bias Control
20,000 "	16-119	F	*Antenna Grid Bias Control
25,000 "	11-120	A	Potentiometer Voltage Divider
25,000 "	14-120	D	*Grid Bias Control
25,000 "	16-120	F	Antenna Control
50,000 "	11-123	A	Potentiometer Voltage Divider
50,000 "	13-123	C	Tone Control
75,000 "	13-125	C	Tone Control
75,000 "	14-125	D	*Grid Bias Control
100,000 "	11-128	A	Potentiometer Voltage Divider
100,000 "	13-128	C	Tone or Audio Circuit Control
200,000 "	11-129	A	Potentiometer Voltage Divider
200,000 "	14-129	D	*Grid Bias Control
250,000 "	13-130	C	Tone or Audio Circuit Control
250,000 "	14-130	D	*Grid Bias Control
250,000 "	14-130	H	Tapped Tone Compensation
350,000 "	13-132	C	Tone or Audio Circuit Control
350,000 "	13-132	H	Tapped Tone Compensation
350,000 "	13-132	C	Tone or Audio Circuit Control
500,000 "	11-133	A	Potentiometer Voltage Divider
500,000 "	13-133	C	Tone or Audio Circuit Control
500,000 "	13-133	H	Tapped Tone Compensation
500,000 "	14-133	D	R. F. Plate Control
1.0 Meg.	13-137	C	Tone or Audio Circuit Control
1.0 "	250M	H	Tapped Tone Compensation
1.0 "	500M	A	Fader Control for fading out of one circuit into another
2.0 "	13-139	C	Tone or Audio Circuit Control
2.0 "	500M	H	Tapped Tone Compensation
3.0 "	13-140	C	Tone or Audio Circuit Control
5.0 "	11-141	A	Potentiometer Voltage Divider
7.0 "	11-142	A	Potentiometer Voltage Divider
10.0 "	11-143	A	Potentiometer or Rheostat

† Indicates standard tapped controls without switch.
Includes 300 ohm BT-1/2 resistor.

Type CS DUAL and TRIPLE CONTROLS



Type CS
Dual
Control

IRC Type CS Controls can be provided in any combination of two or three units operated from the same shaft. The following listing is of popular dual controls, but any combination of dual or triple controls, or of CS and type W Controls is available on special order. Standard switches can be attached. Dimensions are the same as for CS Controls, except that depth is 1 1/4" without switch; and 1 3/4" with switch.

IRC Type No.	Unit	Resistance	Curve	List Price	Net Price
35-1620	Panel	10,000 Ohms	C	\$2.50	\$1.50
	Rear	25,000 "	E		
61-1623	Panel	10,000 "	F	2.50	1.50
	Rear	50,000 "	A		
33-2828	Panel	100,000 "	C	2.50	1.50
	Rear	100,000 "			
33-3030	Panel	250,000 "	C	2.50	1.50
	Rear	250,000 "			
33-3333	Panel	500,000 "	C	2.50	1.50
	Rear	500,000 "			
33-3939	Panel	2 Meg.	C	2.50	1.50
	Rear	2 "			

ATTENUATORS—For inexpensive L- and T-Pad Attenuators utilizing Type CS and Type W Wire Wound Dual and Triple Controls with special tapers and connections, see Page M-34.

8 STANDARD TAPERS

A—Used as potentiometer or rheostat in any circuit where uniform resistance change is required.

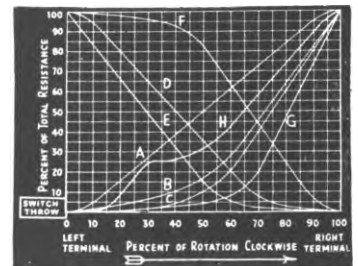
B—A semi-logarithmic curve used as tone control or audio circuit control.

C—A logarithmic curve. Used as audio circuit control or antenna shunt control.

D—Tapered at both ends to provide control of grid bias and antenna circuit. Used where control of grid bias is of prime importance in controlling volume.

E—Used as a rheostat in cathode circuit to control grid bias.

F—Tapered at both ends to provide control of grid bias and antenna circuit. Used where control of grid bias is essential in controlling volume. Generally used where the control changes the grid bias of only one or two tubes. Must not be used with heavy currents.

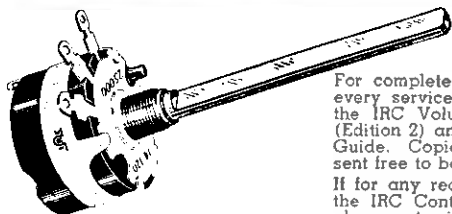


G—A logarithmic curve with very gradual change in resistance from left terminal. Used as audio circuit control or antenna shunt control.

H—A tapered logarithmic curve used as audio level control for automatic bass compensation. Standard Controls are made with Tapers A, C, D, F and H only. Special Replacements use all eight curves.

SPECIAL CONTROLS having resistances or tapers not listed as standard may be obtained by special order.

VOLUME CONTROLS



SPECIAL CONTROLS

For complete information on special controls, every serviceman should have copies of both the IRC Volume Control Replacement Guide (Edition 2) and the 1940 Supplement to the IRC Guide. Copies of both books will gladly be sent free to bona fide servicemen upon request. If for any reason, however, you do not know the IRC Control type number, the proper replacement will be supplied promptly if, when ordering, you merely furnish the manufacturer's name and model number of the radio set being

repaired, also the circuit or application for which the control is to be used.

Many servicemen like to carry stocks of frequently needed special controls and, for their guidance, we publish herewith a list of those shown by extensive IRC records to be most in demand. These, of course, represent only a small portion of the complete IRC line of special types and servicemen should refer to the IRC Guide and Supplement for the many that are not listed here.

IRC Control No.	Net Price	Manufacturer and Model
J-15*	\$0.90 net	Stewart-Warner R-100-A, B, E (AC), 935 Series, 950-AC.
J-127*	\$1.50 net	R.C.A. R-32, RE-45, R-52, RE-75, 145.
J-210*	\$0.90 net	General Electric J-80, J-85, JZ-835, K-62, KZ-62-P, K-82, S-132. Graybar GT-8, GB-9, GC-14, GE-989. R.C.A. R-8, R-10, R-11, R-12, RE-18, RE-18-A, RE-19, R-21, RO-23, RAE-26. Westinghouse WR-15. Westinghouse International WR-15-A, WR-15, WR-18.
J-296*	\$1.50 net	Philco 70, 70-A Below 22001, 90, 90-A (Two 45's), 270, 270-A, 370, 470, 470-A, 570.
J-693*	\$0.90 net	R.C.A. C-6-2, C-6-8.
J-699*	\$0.90 net	R.C.A. 9-K, 9-K-2, 9-T, 9-K-3, 9-U, 9-U-2, 10-K, 10-K-1, 10-T, T-10-1, T-10-3, C-11-1, C-11-3, D-11-2, C-13-2, 15-U, 812-K, 813-K, 816-K.
J-927*	\$1.20 net	Zenith 1004, 1203, 5634, 5635, 5801 Chassis. 6-B-107, 6-B-129, 6-B-164, 6-S-128, 6-S-137, 6-S-147, 6-S-152, 6-S-157, 8-S-127, 8-S-154, 10-S-130, 10-S-147, 10-S-153, 10-S-155, 10-S-156, 10-S-157, 10-S-160, 12-U-158, 12-U-159.
J-967*	\$1.20 net	General Electric E-61, E-62, E-68, E-71, E-72, E-76, FD-62, FD-62S, E-79, E-81, E-86, E-91, E-95, E-101, E-105, E-106.
J-981*	\$1.20 net	General Electric F-63, F-65, F-66, F-74, F-77.
J-1068*	\$1.20 net	Zenith 7S323, 7S342, 7S343, 7S363, 7S364, 7S366, (5714 Chassis) 8S359, (5807 Chassis).
J-108*	\$0.90 net	Philco 30 Battery, 96, 96-A, 111, 111-A, 112, 112-A, 211, 211-A, 212, 212-A, 296, 295-A.
J-107*	\$1.50 net	General Electric T-41. Graybar GB-678. Pilot K-117. R.C.A. R-14, R-15, RE-17, Radiola 42 Radiola 48. Westinghouse WR-4.
J-167*	\$0.90 net	Spartan 69, 79-A, 89, 101, 109, 110-AC, 301, 589, 591, 593, 930, 931.
J-298*	\$1.50 net	Philco 20, 20A, 21, 41DC, 42DC, 77, 77-A, 220, 220-A.
J-408*	\$1.20 net	Philco 60, 66, 261, 264, 265, 505.
J-777*	\$0.90 net	Ford-Philco T9-FT9, FT9X, F-1440, F-1442. Graham-Philco G-1418, G-1436. Lincoln-Philco L-1420, L-1424, L-1425, L-1427, L-1429, L-1460. Nash-Philco (Lafayette) T12-NT12X, NT-12X2, T15-NT15, NT15X, N-1418, N-1433H, N-1434H. Packard-Philco P-1417. Philco T9, T12, T15, 816, 817, 821P, 821PV, 826, 827, 827K, 828, 828K. Reo-Philco R-1415. Studebaker-Philco T12-ST12, T-15-ST15, S-1431, S-1437. Willys-Overland-Philco W-1419.
J-781*	\$1.20 net	Chrysler-Philco G(122)-CGD, T2-CT2, T5-CT-5. DeSoto-Philco G(122)-CGD, T2-CT2, T5-CT-5. Dodge-Philco Dodge (Code DU), G(122)-CGD, T2-CT2. Ford-Philco N-FND (V8-1934), T6-FT6. Hupmobile-Philco G(122)-CGD, R(122)-HRD, T2-HT2. Packard-Philco T5-PT5. Philco T2, T5, T6, G(122)N, R(122). Plymouth-Philco G(122)-CGD, Plymouth (Code PJ), T2-CT2.

IRC Control No.	Net Price	Manufacturer and Model
J-807*	\$1.20 net	Crosley 5-M-3, 141, 148, 159, 167, 184.
J-819*	\$1.20 net	Federated Purchaser 32-A, 36-A. Firestone R-1661, Air Chief. Grunow 5G Chassis, 6G, 6I, Chassis, 640, 641, 680, 681. Stewart-Warner R-145 Chassis, 1451 to 1459, R-146 Chassis, 1461 to 1469, R-147 Chassis, 1471 to 1479, R-148 Chassis, 1481 to 1489, R-173 Chassis, 1731 to 1739.
J-821*	\$1.20 net	Galvin (Motorola) 60, 70, 75, 79, 80, Golden Voice 1936.
J-843*	\$0.90 net	Chrysler-Philco, T10-CT10, T11-CT11, C-1452, C-1540. De Soto-Philco T10-CT10, T-11-CT11. Dodge-Philco T11-CT11. Hupmobile-Philco HT11X. Lincoln-Philco LT14X3. Packard-Philco T-14-PT14, P-1422, P-1430, P-1432H, P-1439. Philco T10, T11. Pierce-Arrow-Philco T14-MT14X4. Reo-Philco T11-CT11, T14-R14X.
J-958*	\$0.90 net	Philco 37-9, 37-10, 37-11, 37-116, 37-610, 37-611, 37-620, 37-623, 37-624, 37-630, 37-640, 37-641, 37-643, 37-650, 37-660, 37-665, 37-670, 37-675, 37-2620, 37-2650, 37-2670, 38-3, 38-116.
J-1043*	\$0.90 net	R.C.A. 98K, 99K, 99T, 811K, 910KG, 911K. Westinghouse WR-366, 368.
J-1063*	\$1.20 net	Zenith 4B313 (5410 Chassis), 4B314, 4B317 (5411 Chassis), 5R303, 5R-312, 5R-316, 5R317, 5R337 (5528 Chassis), 6D312, 6D316, 6D317, 6D337 (5647 Chassis).
J-1110*	\$1.20 net	G.E. G-53, G-56, G-64, G-65, G-75.
DJ-4*	\$1.80 net	R.C.A. 96K, 96K2, 97E, 97KG, 98X.
DJ-5*	\$1.80 net	Zenith 5637, 5803 Chassis, 6-M-192, 6-M-193, 6-M-194, 8-M-195.
DJ-52*	\$1.20 net	United Motors Service 980534, 98535 (Buick).
DJ-83*	\$1.20 net	Philco 28, 28AC-DC, 29, 45, 245.
J-11*	\$1.50 net	Atwater Kent 72 Chassis H, 74 Chassis H, Chassis H.
J-74*	\$0.90 net	Stromberg-Carlson 641, A, B, and C, 642, 652, 654, 846, 848 (Long shaft).
J-105*	\$1.50 net	R.C.A. R-34, R-35, R-39, RE-57, RE-73.
J-139*	\$1.80 net	Zenith 61, 62, 63, 70, 71, 72, 73, 77, 602, 612, 622, 642 (Dual Control), 712 (1930), 722, 732, 772.
J-181*	\$0.90 net	Nash-Philco (Lafayette) T7-NT7, T8-NT8. Philco T7, T8, 806, 809, 810. Studebaker-Philco T7-S77.
J-192*	\$0.90 net	Atwater-Kent 37, 37C, 37F, 38, 40, 41, 42, 43, 44, 45, 46, 47, 51, 52, 53, 56, 57.
J-211*	\$0.90 net	General Electric H-31, H-51, H-51-R, H-71, H-71-R, S-22, S-22-X. Graybar GB-700, GB-770, GB-900. R.C.A. Radiola 35, RAE-68, Radiola 80, Radiola 82, Radiola 86. Westinghouse WR-5, WR-6, WR-7, WR-8. Westinghouse International WR-6-R, WR-7-R.
J-222*	\$0.90 net	National Carbon "Ever-ready" 1, 2, 3. Bosch 28, 29 (Pulley type).
J-270*	\$1.80 net	All American Mohawk B-94, D, D-L, H Series.

IRC Control No.	Net Price	Manufacturer and Model
J-272*	\$1.50 net	Atwater Kent 55, 55C, 55F, 55FC, 60, 60C (Late), 66.
J-273*	\$1.50 net	Atwater Kent 60C (Third type), No. 5, 670, 001 to 5,684,000, 70 Chassis F, D, P, 74 Chassis D, F, L, P, 76 Chassis D, F, L, P, 87-D (DC), D, F, L, P Chassis.
J-280*	\$0.90 net	Brunswick R-1, 2-KRO, 3-KR-3, 3-KRO, 3-KR-6, 3-KR-8, 5-KR, 5-KRO, 5-KR-6. Graybar GB-311 DC. R.C.A. Radiola 18, Radiola 18-DC, Radiola 33-AC, 33-DC.
J-295*	\$1.50 net	Majestic 50, 51, 52.
J-352*	\$1.20 net	Crosley 124, 125.
J-409*	\$1.20 net	Philco 57, 58, 59.
J-457*	\$1.20 net	Zenith 50, 52, 53, 54, 57, 60, 61, 62, 64, 67, 602, 612, 622, 642, (Single control), 672.
J-462*	\$1.20 net	Zenith 1202, 1601-C-P, 5903 Chassis, 9-S-30, 9-S-54, 9-S-55, 12-L-57, 12-L-58, 16-A-61, 16-A-63.
J-574*	\$1.20 net	Grunow 6A, 6C, 6F Chassis, 650, 651, 660, 661, 662, 690, 691.
J-763*	\$1.80 net	Montgomery Ward (Air-line) 62-185, 62-186, 62-187, 62-190, 62-196. Wells-Gardner 7GM Series (37G508, 37G-566), 7K Series.
J-823*	\$1.50 net	General Electric A-82, A-86, A-87.
J-859*	\$1.20 net	Philco 37-600, 600.
J-961*	\$1.20 net	R.C.A. 9-K-1, U-109.
J-1002*	\$0.90 net	General Electric F-70, F-75, F-80, F-81, F-85, F-86, F-88, FE-82, FE-87.
J-1011*	\$0.90 net	Philco 38-4, 38-7, 38-8, 38-9, 38-22, 38-23.
J-1026*	\$0.90 net	Zenith 1501 Chassis, 15-U-246, 15-U-269, 15-U-270, 15-U-271, 15-U-272, 15-U-273.
J-1054*	\$1.20 net	Wells-Gardner A 11. Westinghouse WR-150.
J-1055*	\$0.90 net	Bosch 850, 860, 862. Westinghouse WR-330, WR-332, WR-334, WR-336.
J-1059*	\$0.90 net	Philco 39-36, 39-40, 39-45 (121) 108, 40-195, 40-200.
J-1062*	\$0.90 net	Zenith, 12S345, 12S370, 12S371 (1206 Chassis), 15S308, 15S346, 15S372, 15S373 (1502 Chassis).
J-1064*	\$1.20 net	Zenith 5S319, 5S320, 5S327, 5S338, 5S339 (5529 Chassis).
J-1070*	\$0.90 net	Zenith 9S307, 9S324, 9S344, 9S367, 9S369 (5907 Chassis).
J-1079*	\$1.20 net	Philco 39-17, 39-18, 39-19 (121, 122), 39-117, 39-118, 39-119 (121, 122).
DJ-85*	\$1.20 net	Zenith 5643 Chassis, 6D-311, 6D326, 6D336, 6D360.
J-13*	\$0.90 net	Stewart-Warner 900 Series.
J-35*	\$0.90 net	Philco 24, 48DC, 51, 51-A, 52, 551.
J-36*	\$0.90 net	Philco 22L, 47DC, 71.
J-58*	\$0.90 net	Majestic 90, 90-B, 91, 92, 93.
J-63*	\$0.90 net	Crosley 27, 28, 30, 31, 32, 33, 34, 40-S, 41-S, 42-S (Third type), 82-S (Third type), 315 (Third type).
J-100*	\$1.50 net	General Motors 120, 130, 140, 150 Chassis A Below 29100A and Chassis B Below 1700 B.A.B.
J-102*	\$1.50 net	General Motors 160, 1601.
J-110*	\$1.50 net	General Motors 18, 110, 120, 130, 140, 150 Chassis A between 29100A and 62100A, Chassis B between 1700B and 1964B, 180, 190, Little General.
J-136*	\$1.80 net	Spartan 410, 420, 430, 600-A, 610-A, 620-A, 750-D.

Marks after IRC numbers indicate use of controls as follows: * VOLUME † TONE

INSULATED



RESISTORS

Type BT INSULATED Metallized RESISTORS

Don't stake your reputation on an unknown or doubtful, cheap resistor! The few cents saving isn't worth the risk.

Nowadays, good and bad resistors look pretty much alike—BUT who can tell what left-overs, returned goods, rejects, old range units, manufacturers' experiments and defectives are being offered as bargains? Who can tell where they come from—who made them, or why? Don't risk your future and gamble away the good will of your trade on a "Who-Can-Tell."

It's easy to be safe—sure—right. Buy and use only IRC Resistors made especially for replacement and amateur work—branded at the factory with the resistance value, type, color-coding and IRC trade-mark. Then you can't go wrong. IRC Resistors will insure you against trouble and safeguard your reputation. They stay put—and help you get the next job. They work for you, not against you.

Insulated from end to end. Unexcelled in such essential characteristics as stability, low noise level, low voltage coefficient, mechanical strength, moisture-protection and insulation. Standard tolerance $\pm 10\%$. **Special $\pm 5\%$ tolerance at 50% higher cost.**



Type BT-1/2—1/2 Watt

5/8" x 1/8". 250 ohms to 20.0 megohms. List \$0.17, Net \$0.10



Type BT-1—1 Watt

1 1/4" x 1/4". 350 ohms to 20.0 megohms. List \$0.20, Net \$0.12



Type BT-2—2 Watts

1 3/4" x 1/2". 500 ohms to 20.0 megohms. List \$0.30, Net \$0.18
Other BT Resistor ranges available on special order at above prices.

STANDARD STOCK RANGES

Subject to the minimum and maximum values for each of the various types of BT and type F Resistors and BW Insulated Wire Wound Resistors.

Ohms	Ohms	Ohms	Ohms	Meg.
0.5	150	2,500	20,000	0.25
1	200	3,000	22,500	0.3
2	250	3,500	25,000	0.4
3	300	4,000	30,000	0.5
5	350	5,000	35,000	0.6
7.5	400	6,000	40,000	0.75
10	450	7,000	50,000	1.0
15	500	7,500	60,000	1.5
20	600	8,000	65,000	2.0
25	750	9,000	70,000	3.0
30	800	10,000	75,000	4.0
40	1,000	11,000	Meg.	5.0
50	1,250	12,000	0.1	6.0
75	1,500	12,500	0.125	7.0
100	2,000	15,000	0.15	10.0
120	2,250	17,500	0.2	20.0



RESIST-O-CHEST (PLYBOARD)

Smaller than the All-Metal Resist-O-Cabinet, but entirely adequate for holding complete stocks of resistors and other small parts, this Resist-O-Chest is 8 1/2" high, 4 3/4" wide and 5 1/2" deep. It is made of double-layer plyboard attractively finished in silver, blue and yellow. Contains seven medium-sized drawers and one large drawer. Supplied at no extra charge when factory-packed with 56

56 1 watt Resistors, List \$11.20, Net \$6.72. Resist-O-Chest included at no extra cost.

Resist-O-Chest (sold separately without any resistors), List \$1.50, Net \$0.90.

IRC Type BT-1 (1 Watt) Insulated Metallized Resistors—two resistors in each of the most frequently needed ranges. You pay only the regular standard price for the resistors.

Type BW INSULATED WIRE WOUND RESISTORS

Same size and with same insulation as Insulated Metallized Resistors, but have wire resistance element wound tightly around special insulated core. Unexcelled for jobs such as meter shunts and multipliers (where precision is not a factor); cathode biasing, decoupling, series air cell battery use. Standard tolerance $\pm 10\%$. **Special $\pm 5\%$ tolerance available at 50% higher cost.**



1/2 Watt, BW-1/2

5/8" x 3/16". Wire Wound. Following ranges 0.5, 1, 2, 3, 5, 7.5, 10, 15, 20, 25, 30, 40, 50, 75, 100, 120, 150, 200, 250, 300, 350, 400, 450, 500, 600, 750 ohms. List \$0.17, Net \$0.10



1 Watt, BW-1

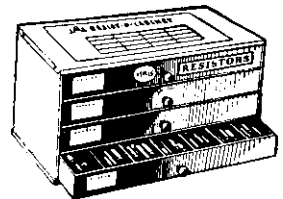
1 1/4" x 1/4". Wire Wound. Following ranges: 1, 2, 3, 5, 7.5, 10, 15, 20, 25, 30, 40, 50, 75, 100, 120, 150, 200, 250, 300, 350, 400, 450, 500, 600, 750, 800, 1,000, 1,250, 1,500, 2,000, 2,250, 2,500, 3,000, 3,500, 4,000 ohms. List \$0.20, Net \$0.12



2 Watts, BW-2

1 3/4" x 1/2". Wire Wound. Following ranges: 1, 2, 3, 5, 7.5, 10, 15, 20, 25, 30, 40, 50, 75, 100, 120, 150, 200, 250, 300, 350, 400, 450, 500, 600, 750, 800, 1,000, 1,250, 1,500, 2,000, 2,250, 2,500, 3,000, 3,500, 4,000, 5,000, 6,000, 7,500 ohms. List \$0.30, Net \$0.18

RESIST-O-CABINET ALL-METAL



Don't throw your resistors and other small parts haphazardly into cigar boxes, bottles or drawers! Keep them in this handy, All-Metal Cabinet, made just for the purpose. Cabinet comes factory-packed with any one of three balanced resistor assortments of only the most frequently needed ranges. You pay ONLY for the resistors—you get the Cabinet at no extra cost. Contains 4 large drawers with 7 compartments in each. 11" long, 5 1/2" high, 5 1/2" deep. (NOT SOLD EMPTY.)

RESISTOR ASSORTMENT NO. 1—59 Resistors in Types, Sizes and Ranges for Every Job.

Type BT-1/2 (1/2 Watt)—One each 1,000; 5,000; 10,000; 25,000; 50,000; 0.1; 0.25 and 0.5 meg.

Type BT-1 (1 Watt)—One each 40,000 and 75,000 ohms; 0.15 and 0.2 meg. Two each 1,000; 1,500; 2,000; 2,500; 5,000; 15,000; 25,000 ohms and 1.0 and 2.0 meg. Three each 10,000; 50,000; 0.1; 0.25 and 0.5 meg.

Type AB (10 Watts Fixed)—One each 1,000; 1,500; 2,500 and 5,000 ohms. Two each 10,000; 50,000; 0.1; 0.25 and 0.5 meg.

Type ABA (10 Watts Adjustable)—One each 1,000; 2,500; 5,000 and 10,000 ohms.

Actual value of above 59 Resistors (Resis-O-Cabinet free), List \$15.16, Net \$9.10

ASSORTMENT NO. 2—Contains 100 Type BT-1/2 (1/2 Watt) Insulated resistors as follows: Two each 50 ohms; 100; 3,000; 7,500; 30,000; 65,000; 75,000; 0.15 meg.; 0.2; 0.3. Three each 250 ohms; 500; 1,500; 15,000; 20,000; 40,000; 1.0; 2.0 meg. Five each 2,000 ohms; 2,500; 25,000; 0.25. Six each 1,000 ohms; 5,000; 10,000; 50,000; 0.1 and 0.5 meg.

List price of Resistors, \$17.00 Net \$10.20 (Cabinet Free)

ASSORTMENT NO. 3—Contains 83 Type BT-1 (1 Watt) Insulated Resistors as follows: Two each 50 ohms; 100; 250; 500; 1,500; 2,500; 3,000; 7,500; 30,000; 40,000; 65,000; 75,000; 0.15 meg.; 0.2; 0.3; 1.0; 2.0. Three each 15,000 ohms; 20,000; 25,000. Five each 1,000 ohms; 2,000; 5,000; 10,000; 50,000; 0.1 meg.; 0.25; and 0.5.

List price of Resistors, \$16.60 Net \$9.96 (Cabinet Free)

POWER



RESISTORS



Not only do these famous resistors excel electrically, but their "climate-proofed" cement coating provides the most dependable protection yet devised for resistors for heavy duty work. Both fixed and adjustable types are available.



MOUNTING BRACKETS are packed with all resistors from 25 watts and up. ONE ADJUSTABLE BAND is furnished with each adjustable resistor. The new Type X Band (described below) is included as standard on units of 25 watts and above. Extra bands supplied at prices indicated.

10 WATTS (1 1/4" x 5/16")

Fixed Type AB Net	Range Ohms	Max. m.a.	Adj. Type ABA Net
50.24	1	3150	\$0.36
0.24	2	2210	0.36
0.24	3	1830	0.36
0.24	5	1420	0.36
0.24	7.5	1150	0.36
0.24	10	1000	0.36
0.24	15	820	0.36
0.24	20	720	0.36
0.24	25	640	0.36
0.24	50	440	0.36
0.24	75	360	0.36
0.24	100	315	0.36
0.24	150	260	0.36
0.24	200	220	0.36
0.24	250	200	0.36
0.24	300	175	0.36
0.24	350	169	0.36
0.24	400	157	0.36
0.24	500	140	0.36
0.24	600	125	0.36
0.24	750	115	0.36
0.24	800	112	0.36
0.24	1,000	100	0.36
0.24	1,250	90	0.36
0.24	1,450	83	0.36
0.24	1,500	82	0.36
0.24	2,000	71	0.36
0.24	2,250	67	0.36
0.24	2,500	63	0.36
0.24	3,000	57	0.36
0.24	3,500	53	0.36
0.24	4,000	50	0.36
0.24	4,500	47	0.36
0.24	5,000	45	0.36
0.24	6,000	41	0.36
0.24	7,000	37	0.36
0.24	7,500	36	0.36
0.24	8,000	35	0.36
0.24	8,500	34	0.36
0.24	9,000	33	0.36
0.24	10,000	31	0.36
0.24	11,000	30	...
0.24	12,000	28	...
0.24	12,500	28	...
0.24	14,300	25	...
0.24	15,000	25	...
0.24	20,000	22	...
0.24	25,000	20	...
0.24	30,000*	13	...
0.24	35,000*	12	...
0.24	40,000*	11	...
0.24	50,000*	10	...

Extra bands for ABA—
6c each Net

20 WATTS (2" x 9/16")

Fixed Type DG Net	Range Ohms	Max. m.a.	Adj. Type ABA Net
0.39	1	4400	0.66
0.39	5	2000	0.66
0.39	10	1415	0.66
0.39	25	895	0.66
0.39	50	633	0.66
0.39	75	517	0.66
0.39	100	447	0.66
0.39	150	365	0.66
0.39	200	316	0.66
0.39	250	282	0.66
0.39	300	258	0.66
0.39	350	238	0.66
0.39	400	224	0.66
0.39	500	200	0.66
0.39	750	163	0.66
0.39	800	158	0.66
0.39	850	153	0.66
0.39	1,000	141	0.66

AVAILABLE IN FIXED RESISTOR TYPE ONLY

Fixed Type Range EP Net	Max. Ohms	Adj. Type Range EPA Net
0.39	1,200	129
0.39	1,250	126
0.39	1,500	115
0.39	1,750	107
0.39	1,850	104
0.39	2,000	100
0.39	2,250	94
0.39	2,400	91
0.39	2,500	89
0.39	2,750	85
0.39	3,000	81
0.39	3,500	75
0.39	4,000	70
0.39	4,500	66
0.39	5,000	63
0.39	6,000	57
0.39	7,000	53
0.39	7,500	51
0.39	8,000	50
0.39	9,000	46
0.39	10,000	43
0.39	11,000	41
0.39	12,000	40
0.39	12,500	39
0.39	15,000	35
0.45	20,000	30
0.45	25,000	28
0.45	30,000	25
0.45	35,000	23
0.45	40,000	22
0.45	50,000*	20
0.60	60,000*	13
0.60	65,000*	12
0.60	70,000*	12
0.60	75,000*	11
0.60	80,000*	11
0.60	100,000*	10

AVAILABLE IN FIXED RESISTOR TYPE ONLY

25 WATTS (2 1/2" x 9/16")

Range Ohms	Max. m.a.	Adj. Type DHA Net
1	5000	\$0.51
3	2850	0.51
5	2200	0.51
10	1580	0.51
15	1290	0.51
25	1000	0.51
50	710	0.51
75	575	0.51
100	500	0.51
150	400	0.51
200	353	0.51
250	320	0.51
300	289	0.51
400	250	0.51
500	224	0.51
750	182	0.51
800	177	0.51
1,000	158	0.51
1,250	141	0.51
1,500	129	0.51
2,000	112	0.51
2,250	105	0.51
2,500	100	0.51
3,000	91	0.51
3,500	84	0.51
4,000	79	0.51
5,000	71	0.51
6,000	64	0.57
7,500	58	0.57
8,000	56	0.57
9,000	53	0.57
10,000	50	0.57
12,000	45	0.57
15,000	41	0.57
20,000	35	0.66
25,000	32	0.66

AVAILABLE IN ADJUSTABLE RESISTOR TYPE ONLY

EXTRA BANDS for "D" Type Resistors:
"D" Type Bands. 6c each net
New Type X2....12c each net

50 WATTS (4 1/2" x 3/4")

Fixed Type Range EP Net	Max. Ohms	Adj. Type Range EPA Net
\$0.66	5	3165
0.66	10	2230
0.66	25	1390
0.66	50	1000
...	75	810
0.66	100	700
...	150	550
0.66	200	500
0.66	250	440
...	300	375
0.66	400	350
0.66	500	300
0.66	750	250
...	600	248
0.66	1,000	215
...	1,250	195
0.66	1,500	175
0.66	2,000	155
0.66	2,500	135
0.66	3,000	120
0.66	4,000	105
0.66	5,000	95
0.75	6,000	85
0.75	7,000	78
0.75	7,500	77
0.75	8,000	75
0.75	10,000	66
0.75	12,000	53
0.75	12,500	60
0.75	15,000	56
0.75	20,000	48
0.75	25,000	43
0.87	30,000	39
0.87	40,000	34
0.87	50,000	30
0.87	60,000	28
0.87	75,000	25
0.87	0.1 meg.	21

Extra bands.... 6c each net
New Type X3....12c each net

80 WATTS (6 1/2" x 3/4")

Fixed Type Range ES Net	Max. Ohms	Adj. Type Range ESA Net
\$0.75	5	4000
0.75	10	2730
...	15	2230
0.75	25	1730
0.75	50	1220
0.75	100	865
0.75	200	612
0.75	250	545
0.75	300	387
0.75	750	316
...	800	305
0.75	1,000	274
0.75	1,500	223
0.75	2,000	193
0.75	2,500	173
0.75	3,000	158
...	3,500	145
0.75	4,000	137
0.75	5,000	122
0.90	6,000	112
0.90	7,500	100
0.90	8,000	98
0.90	10,000	86
0.90	15,000	70
0.90	20,000	61
0.90	25,000	55
1.05	30,000	50
...	35,000	47

1.05	40,000	43	1.35
...	45,000	41	1.35
1.05	50,000	39	1.35
1.20	60,000	35	1.50
1.20	75,000	31	...
...	80,000	30	1.50
1.35	0.1 meg.	27	1.50

Extra bands.... 6c each net
New Type X3....12c each net

100 WATTS (6 1/2" x 1 1/8")

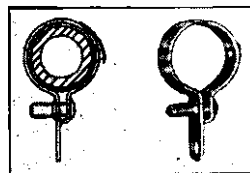
Fixed Type Range HA Net	Max. Ohms	Adj. Type Range HAA Net
\$0.90	25	2000
0.90	50	1414
0.90	75	1155
0.90	100	1000
0.90	150	815
...	200	718
0.90	250	632
...	400	500
0.90	500	447
0.90	750	365
0.90	1,000	315
0.90	1,250	280
0.90	1,500	250
0.90	2,000	220
0.90	2,500	200
0.90	3,000	180
...	4,000	155
0.90	5,000	140
...	6,000	130
1.05	7,500	115
...	8,000	110
1.05	10,000	100
1.05	15,000	80
1.05	20,000	70
1.05	25,000	63
1.20	30,000	58
1.20	40,000	50
1.20	50,000	44
1.35	60,000	41
1.35	75,000	36
1.50	0.1 meg.	31

Extra bands.... 6c each net
New Type X4....15c each net

200 WATTS (10 1/2" x 1 1/8")

Fixed Type Range HO Net	Max. Ohms	Adj. Type Range HOA Net
\$1.50	25	2000
1.50	50	1414
1.50	100	1000
1.50	250	804
1.50	500	632
1.50	750	515
1.50	1,000	447
1.50	1,500	365
1.50	2,000	316
1.50	2,500	283
1.50	3,000	258
1.50	5,000	200
1.50	7,500	163
...	10,000	141
1.80	15,000	115
1.80	20,000	100
1.80	25,000	90
1.80	30,000	81
1.80	40,000	70
1.80	50,000	63
1.80	60,000	57
1.80	75,000	51
1.80	0.1 meg.	44

"H" Type Bands. 9c each net
New Type X4....15c each net



TYPE X ADJUSTABLE BANDS

No more wire damage when the sliding contact band is moved on adjustable resistors. No corrosion at point of contact! The new IRC Type X Positive Pressure Contact Band removes these troubles once and for all. Silver contact button is attached to constant-pressure steel spring.

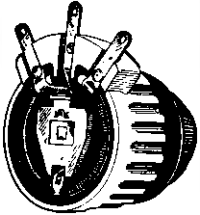
* These units are not recommended for use at higher than five watts for the AB type and 10 watts for the DG type.

RHEOSTATS



RESISTORS

ALL-METAL RHEOSTATS



PR-25 (25 Watts) 1 1/8" diam. Depth behind panel, 3/8"

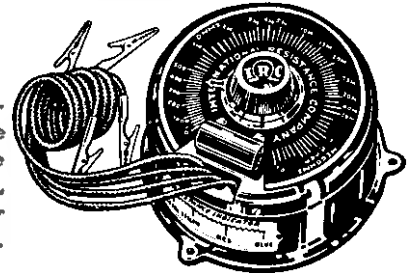
PR-50 (50 Watts) 2 3/8" diam. Depth behind panel, 1 1/8"

Operating temperatures are cut almost in half by the unique, all-metal aluminum construction of these new IRC Rheostats. They dissipate heat more rapidly—give ample safety factor. Ratings based on hottest spot temp. rise of only 140 degrees C. with max. load distributed over entire element. With full load applied to as little as 25% of element, rise is only 160 degrees C. Exclusive IRC Spiral Connector gives positive contact between rotor arm and center terminal.

IRC RESISTANCE ANALYZER AND INDICATOR

"The Instrument of Many Uses"

Handy—inexpensive — just the thing for the radio serviceman, engineer, amateur or experimenter.



An indispensable instrument only 4 3/4" diam. by 3 1/4" high that provides for countless short-cuts in checking and determining resistance measurements, etc. Direct reading. One knob varies resistance from zero to 1.0 megohm. Wire breakage eliminated by special construction. Bakelite case, fully enclosed. 16-page instruction book. May be used as: voltmeter multiplier; wire wound rheostat or potentiometer (0 to 30,000 ohms); carbon rheostat or pot. (30,000 to 1 meg.); volume or tone control; calibrated gain control or attenuator; voltage divider; measurement and determination either by substitution or voltage measurements of best resistance values for any circuit; estimating value and taper of controls, etc. Furnished with 3 separate fuses. 4-test leads have alligator clips.

Net Price (including fuses and booklet) \$4.95

PR-25—25 Watts			PR-50—50 Watts		
Ohms	Max. m.a.	NET	Ohms	Max. m.a.	NET
0.5	7,000	\$2.70	0.5	10,000	\$3.00
1	5,000	2.70	1	7,070	3.00
2	3,450	2.40	2	5,000	3.00
3	2,880	2.40	4	3,520	2.70
6	2,040	2.40	6	2,880	2.70
8	1,770	2.40	8	2,500	2.70
10	1,580	2.40	12	2,040	2.70
15	1,290	2.40	16	1,770	2.70
25	1,000	2.40	22	1,500	2.70
35	845	2.40	35	1,190	2.70
50	709	2.40	50	1,000	2.70
75	575	2.40	80	790	2.70
100	500	2.40	125	630	2.70
125	445	2.40	150	575	2.70
175	375	2.40	225	470	2.70
250	315	2.40	300	407	2.70
350	267	2.40	500	315	2.70
500	222	2.40	800	250	2.85
750	173	2.40	1,000	223	2.85
1,000	155	2.70	1,600	177	2.85
1,500	129	2.70	2,500	140	2.85
2,500	100	2.70	3,500	120	3.00
3,500	84	2.85	5,000	100	3.00
5,000	70	2.85	8,000	79	3.00
			10,000	70	3.00



NON-INDUCTIVE WIRE WOUND RESISTORS (Fixed type)

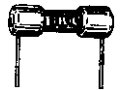
Similar in size, style and construction to IRC fixed type Power Wire Wound Resistors (see Page 7) except that interleaved windings in opposite directions result in negligible residual inductance and very low distributed capacity. No reduction in power ratings necessary when using these non-inductive resistors. IRC "Climate-Proof" cement coating.

List Price Net Price

50 Watts, Type NEP, 4 1/2" x 3/4", with brackets. All popular ranges from 5 ohms to 5,000 ohms.	\$3.00	\$1.80
100 Watts, Type NHA, 6 1/2" x 1 1/8", with brackets. All popular ranges from 5 ohms to 5,000 ohms.	4.00	2.40
200 Watts, Type NHO, 10 1/2" x 1 1/8", with brackets. 25, 50, 100, 250, 500, 750, 1,000, 1,500, 2,000, 2,500, 3,000 and 5,000 ohms.	5.00	3.00

IRC TYPE F RESISTORS

Unexcelled for high frequency work when constant impedance over a wide frequency band is essential.



1/2 Watt (Type F-1/2)—50 ohms to 20 meg.
List 17c; Net 10c

1 Watt (Type F-1)—100 ohms to 20 meg.
List 20c; Net 12c

2 Watts (Type F-2)—50 ohms to 10 meg.
List 30c; Net 18c

3 Watts (Type F-3)—100 ohms to 5 meg.
List 30c; Net 18c

ULTRA HIGH RANGE Metallized RESISTORS



Available in sizes from 1 3/4" to 12" long in ranges from 100 meg. to 100,000 meg. Surface leakage problem solved by exclusive metallized type element and construction features. Complete description and record of other sizes on request. Std. tolerance ±10%. Closer tolerances available.

TYPE FH-1

1 1/8" x 3/8"—500 Volts Max.
Each
100, 250 or 500 Meg... Net \$1.00
1,000 or 5,000 Meg... Net 1.50
10,000 Meg... Net 2.00

TYPE MG-3

3" x 1/8"—1,000 Volts Max.
Each
100, 250 or 500 Meg... Net \$1.15
1,000 or 5,000 Meg... Net 1.65
10,000 or 20,000 Meg... Net 2.15



Get the Complete IRC Catalog

Free on request. Contains complete, more detailed listings, illustrations, technical data on the products described herein, and on many other IRC fixed and variable resistors.

ATTENUATORS



RESISTORS

PRECISION WIRE WOUND RESISTORS



Types WW-4
9/16" x 1"
WW-5
3/4" x 1/4"



Types WW-1
9/16" x 2 1/8"
WW-2
7/8" x 2-15/16"

IRC Precision Wire Wound Resistors are scientifically designed and constructed of highest quality materials to combine the utmost in accuracy with dependability. Winding forms are of a nonhygroscopic ceramic having high insulation qualities, high mechanical strength and low coefficient of expansion. Because of the special sectional construction which permits the winding of adjacent sections in opposite directions, a noninductive winding is made possible. This insures constant resistance at all frequencies up to 50,000 cycles.

These units are used by the leading instrument manufacturers for dependable precision meter multipliers and shunts, decade boxes and calibrated gain controls. 1% accuracy is standard. Closer tolerances available at slightly higher prices as follows: For 1/2% tolerance, add 10%; for 1/4% accuracy, add 15%; and for 1/10 of 1%, add 25% to list prices.

	WW-4		WW-1	
	List	Net	List	Net
0.1; 0.5; 1; 10; 25; 50; 100; 200; 250; 300 and 500 ohms	\$0.85	\$0.51	\$1.15	\$0.69
1,000; 1,500 and 2,000 ohms	.90	.54	1.15	.69
2,500 ohms	.90	.54	1.25	.75
4,000; 5,000; 7,500 and 10,000 ohms	1.00	.60	1.25	.75
12,500 and 15,000 ohms	1.10	.66	1.35	.81
20,000; 22,500; 25,000; 30,000; 40,000 and 50,000 ohms	1.35	.81	1.60	.96
60,000 and 75,000 ohms	1.60	.96	1.90	1.14
0.1 meg	1.85	1.11	2.10	1.26
0.125 meg	2.10	1.26	2.40	1.44
0.15; 0.175 and 0.2 meg	2.35	1.41	2.65	1.59
0.225 and 0.25 meg	2.60	1.56	2.90	1.74
0.3 meg	2.85	1.71	3.15	1.89
0.4 meg	3.00	1.80	3.15	1.89
0.5 meg	3.40	2.04	3.65	2.19
	WW-5		WW-2	
	List	Net	List	Net
0.6 meg	4.25	2.55	4.25	2.55
0.75 meg	4.50	2.70	4.50	2.70
0.9 meg	4.75	2.85	4.75	2.85
1.0 meg	5.25	3.15	5.25	3.15
1.5 meg			7.50	4.50
2.0 meg			10.00	6.00
2.5 meg			12.50	7.50

For list prices of odd ranges not shown, use same price as given for next higher range. Type WW-3 (7/8" x 7/8") with wire leads or lug terminals obtainable on special order at same price as WW-4. Made in all ranges from 1 ohm to 0.15 meg. WW-4 and WW-5 with wire lead terminals instead of lugs are available on special order at no increase in cost.

Special Precision Resistor Types

In addition to those listed here, IRC offers a complete line of 14 Precision Resistor types in sizes, shapes and terminals for every need. See IRC General Catalog No. 47.

BLEEDER RESISTOR UNIVERSAL TYPE



Type M-1034—25,000 ohms over-all resistance, tapped at 7,500; 10,000; 12,500 and 15,000 ohms. 18 watts rating attached flat to chassis, 9 watts free air rating. Used as bleeder in any power supply up to 500 volts. Sealed in bakelite and insulated for 1,000 volts to ground. Bracket supplied.

M-1034—IRC Bleeder Resistor; List \$1.25; Net 75c each

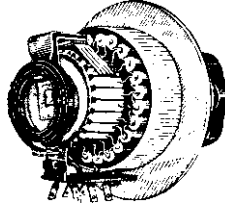
HIGH FREQUENCY RESISTORS (Power Type)

This new type Metallized Resistor is unexcelled as terminating resistor for Rhombic Antenna. Ratings represent maximum allowable dissipation in free air, based on maximum temperature of 140° C.

Type MPO—800 ohms, 50 watts, 1 1/8" diam. x 10 1/2" long, Net \$3.00
Type MPR—800 ohms, 150 watts, 2" diam. x 18 1/2" long, Net \$7.50

Type MPR—400 ohms, 150 watts, 2" diam. x 18 1/2" long, Net \$7.50

FAMOUS IRC ATTENUATORS



Type A-21
20-Step Molded Motor
Commutator Type



Type B-31
30-Step Stud Type Attenuator for Low Level Work

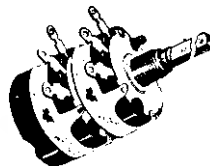
Type A-21—A unique molded motor commutator type switch combines with a multi-finger beryllium copper contact and a flat clock-spring connector to assure an exceptionally low noise level maintained in actual service. Either potentiometer or ladder networks available. Range from 0 to infinity in 21 steps; linear attenuation to 45 DB in 18 steps of 2.5 DB per step, tapering to infinity. Other values available. Standard units supplied with detent, although units without detent available on special order at same prices. Unit is 2" long x 2" diameter. Dial plate, knob and mounting screws furnished.

Type	Impedance	Network	Net
A-21L50	50 ohms	Ladder	\$7.00
A-21L200	200 ohms	Ladder	7.00
A-21L250	250 ohms	Ladder	7.00
A-21L500	500 ohms	Ladder	7.00
A-21-250M	250,000 ohms	Potentiometer	6.75

Type B-31—Spiral clock-spring connectors in each arm of bridged "T" eliminate wiping contacts and assure maintained low noise level of -150 DB. Standard 30-step attenuation is linear for 24 steps; 1.5 DB per step up to 36 DB; tapering off to 65 DB on next to last and to infinity on last step. Other values on special order. Bridged "T" circuit has constant impedance looking "in" and "out." Supplied with or without detent. IRC Insulated Resistors used. 2" long x 2 1/8" diameter. Dial plate, knob and mounting screws furnished.

Type	Impedance	Network	Net
B-31T50	50 ohms	Bridged T	\$17.50
B-31T200	200 ohms	Bridged T	17.50
B-31T250	250 ohms	Bridged T	17.50
B-31T500	500 ohms	Bridged T	17.50

L- and T-PAD ATTENUATORS



By the use of special tapers and connections, IRC Type CS and Type V Dual and Triple Controls (see Pages M-28 and M-29) are available as L-Pad and T-Pad Attenuators. They are specially adapted to low level input circuits in inexpensive sound equipment.

L-PADS (dual)

Type J-1088	50 ohms*	Type J-1091	50 ohms*
Type J-1089	200 "	Type J-1092	200 "
Type J-1090	250 "	Type J-1093	250 "
Type J-976	500 "	Type J-977	500 "

List Price \$2.50, Net \$1.50
List Price \$3.50, Net \$2.10
* These controls are Wire Wound.

T-PADS (triple)

METALLIZED MOTOR RADIO SUPPRESSORS



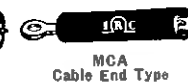
MCB Elbow Type



MS Spark Plug Type



MC Cable Type



MCA Cable End Type



MD Distributor Type

All Types
List, 30c each
Net 18c each

Constructed without springs, steel wool, rivets or other intermediate parts which might loosen or corrode under intense heat, motor vibration or climatic conditions.

Type NAB PARASITIC SUPPRESSOR

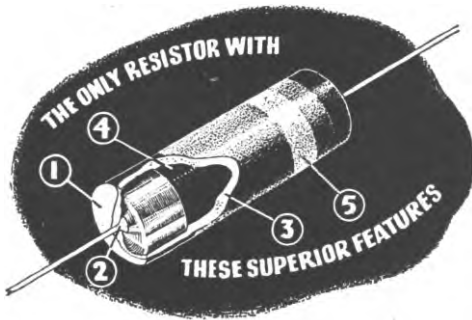


IRC Type NAB Non-Inductive Wire Wound Resistors are designed for use, one in each grid of audio driver or power amplifier tubes when paralleled, to prevent parasitic oscillations. 10 watts.

Type NAB—50 ohms; list, \$0.90 each; Net 54c each

ERIE RESISTOR CORP.

INSULATED RESISTORS



1. 100% sealed with cement that bonds to the ceramic shell, terminal wire and metal cap.
2. Impossible to loosen tinned-copper terminal wires from resistance unit by longitudinal pull or side thrust.
3. Pre-formed ceramic shell that will withstand 3,000 volts A.C. without breakdown, insures positive, uniform insulation.
4. Electrical characteristics of unit, uniformly good without the cement-seal at ends, now better than ever.
5. Color bands painted on white shell do not lose their brilliance; are easy to read under all types of artificial illumination.

Erie Insulated Resistors have the same excellent operating characteristics of the famous Non-Insulated Erie Resistors described at the right. They may be used for replacing any type $\frac{1}{4}$ or $\frac{1}{2}$ watt unit and because they are completely insulated, they can be placed anywhere in the set chassis without danger of shorts or grounds. The many Erie Insulated Resistor exclusive features are covered by U. S. Pat. 2,046,922 and other patents granted and pending.



$\frac{1}{4}$ Watt Insulated Resistor

Size..... $\frac{1}{4}$ " x $\frac{1}{16}$ "

Supplied in all standard ranges from 2 Ohms to 3.0 Megohms.

List Price.....each 17c



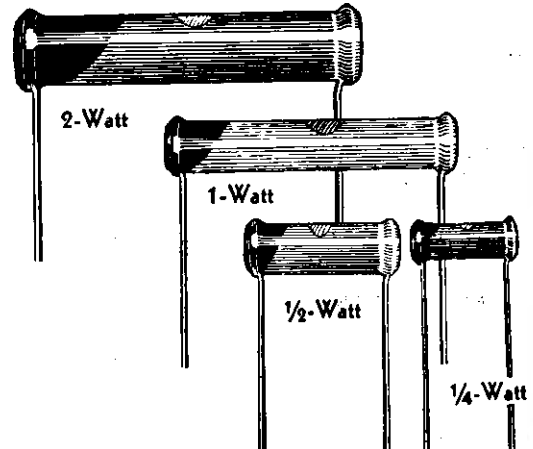
$\frac{1}{2}$ Watt Insulated Resistor

Size..... $\frac{1}{4}$ " x $\frac{11}{16}$ "

Supplied in all standard ranges from 50 Ohms to 5.0 Megohms.

List Price.....each 17c

SOLID MOLDED CARBON RESISTORS



Erie Resistors are the result of careful and painstaking manufacturing methods. Modern automatic production equipment, much of which has been designed by Erie engineers, gives rigid control throughout manufacturing processes. Production samples are taken every day at random for laboratory tests on performance and every Erie Resistor is triple tested for resistance value before leaving the factory. Exhaustive laboratory tests show conclusively that out of seven competitive types of resistors only Erie Resistors give all-round balanced performance on standard operating tests. That's why you can be certain that when Erie Resistors are used for replacement, the set will operate satisfactorily and the customer will be satisfied. These resistors are identical with the millions that are sold to set manufacturers every year for original equipment. Erie Resistors are furnished color-coded according to the standards of the Radio Manufacturers Association.

RATING	SIZE	RANGES	LIST PRICE
2 WATT	$\frac{3}{8}$ "x2"	50 Ohms to 5 Megohms	30c ea.
1 WATT	$\frac{1}{4}$ "x1 $\frac{3}{4}$ "	100 Ohms to 10 Megohms	20c ea.
$\frac{1}{2}$ WATT	$\frac{1}{4}$ "x1"	50 Ohms to 5 Megohms	17c ea.
$\frac{1}{4}$ WATT	$\frac{3}{16}$ "x $\frac{3}{4}$ "	2 Ohms to 3 Megohms	17c ea.

ERIE RESISTOR CORP.

ERIE INSULATED RESISTORS

give Dependable, Balanced Operation

LOAD: After 2,000 hours 1.50% change in resistance at rated load; less than 2.50% change in resistance at 100% overload. ½ watt Erie Insulated Resistor will safely carry a 1 watt load.

HUMIDITY: Less than 4% change in resistance value after being subject to 90% relative humidity at 40° C. for 1,000 hours.

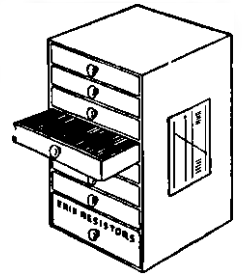
VOLTAGE COEFFICIENT: 1,000 ohm ½ watt Erie Insulated Resistor drops but .002% per volt; a 10,000 ohm unit changes only .0041% per volt; a 100,000 ohm resistor drops .0076% per volt and a 1 megohm unit .011% per volt.

MECHANICAL STRENGTH: Erie Insulated Resistors will withstand a longitudinal pull of 32 pounds without fracture. This is more than adequate to prevent open-circuiting either during or after installation.

Every Service-Man should have this Compact, Handy Chest

Just the thing you want to keep your Erie Resistors in. The new Erie Resistor cabinet measures only 10 ½ inches high, 5 inches wide by 5 ¼ inches deep. It has eight deep, roomy drawers that are specially designed for holding Erie Resistors. Attractively finished in silver and black, with handy information on color code and chart for determining proper resistor to use under any set of conditions encountered in servicing sets.

This handsome chest is supplied absolutely free with 70 ¼ or ½ watt Erie Insulated Resistors in the most popular ranges.



Get Yours Now IT'S FREE!

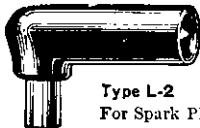
This handy silver Erie Resistor Chest is supplied absolutely free with your order of 70 ½-watt or ¼-watt Erie Insulated Resistors in popular fast-moving ranges. Get yours now.

ERIE SUPPRESSORS

for eliminating ignition noise in auto radios

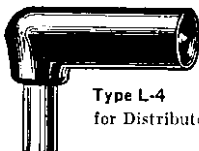
Erie Suppressors effectively eliminate ignition noise in auto radios without appreciably affecting motor operation because their unusual efficiency does not require the use of extremely high resistance values. After 50,000 miles of use, Erie Suppressors change less than 1% in resistance value. The solid molded carbon

resistance element is sealed in a vibration-proof bakelite housing. Erie Suppressors are approved by over 34 automobile manufacturers. They are made in 6 types which are designed to fit every suppression installation.



Type L-2
For Spark Plug

Type L-2—Angle Type Spark Plug Suppressor that has proven very popular. Not necessary to splice ignition cable. For Buick cars, order Modified Angle Suppressor Type L-1.



Type L-4
for Distributors

Type L-4—Same as Type L-2 but with longer metal insert for inserting in distributor head.



Type S-1-B for Spark Plug

Type S-1-B—Not necessary to cut ignition cable when using this handy Suppressor.



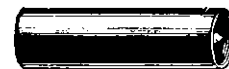
Type A-2 for Spark Plug

Type A-2—Midget spark plug suppressor makes a very neat installation job. Over-all height less than 1 ¼".



Type D-7 for Distributors

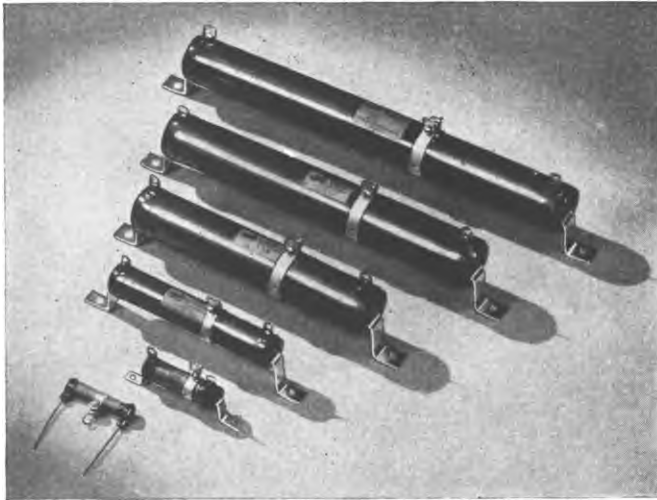
Type D-7—For distributors. Designed by an automotive engineer for maximum efficiency. Has sturdy pressure fitting on distributor end. Gives added protection against moisture. Fits most cars.



Type S-5 for Distributors

Type S-5—For distributors. For use when splicing cable. Has screw terminal at both ends.

LIST PRICE, ALL TYPES, 30c EACH



UTAH Adjustable Types have all the dependable features of the fixed units described on the reverse side; and in addition, the turns of the resistance wire are exposed in a narrow strip to make contact with the adjustable terminal band. Even in this partly exposed area, the wires are protected and anchored from shifting by an enamel which lies between the turns. The cadmium-plated steel adjustable terminal can be set at any desired value along the resistor, and clamped in place with a screw and nut. The wattage which may be safely dissipated at fractional settings is proportional to the effective length of the section being used. Thus an adjustable resistor rated at 50 watts overall, may safely take 25 watts over half of the winding.

10 WATT SIZES—Type CCX

RATING: 10 Watts up to 2000 ohms in free air, entire element. Higher resistance units rated as listed in table. 1 3/4" long, 3/8" overall diameter. Equipped with tinned lug type terminals at each end and one adjustable terminal.

Ohms	Max. Current in Mills	Max. Voltage	List Price	Net Price
10	1,000	10	\$0.60	\$0.36
25	630	15	.60	.36
50	447	22	.60	.36
100	315	31	.60	.36
250	200	50	.60	.36
500	141	70	.60	.36
750	115	86	.60	.36
1,000	100	100	.60	.36
1,500	79	119	.60	.36
2,500	61	154	.60	.36
4,000	47	190	.60	.36
5,000	40	200	.60	.36
7,500	32	245	.60	.36
10,000	24	245	.60	.36

20 WATT SIZES—Type EEX

RATING: 20 Watts up to 10,000 ohms in free air, entire element. Higher resistance units rated as listed in table. 2" long, 1/2" overall diameter, 3/8" inside diameter. Supplied with mounting brackets, 2 3/4" mounting centers and one adjustable terminal. Has soldering lug terminals.

Ohms	Max. Current in Mills	Max. Voltage	List Price	Net Price
10	1,415	14	\$0.85	\$0.51
25	895	22	.85	.51
50	633	31	.85	.51
100	448	44	.85	.51
250	283	70	.85	.51
500	200	100	.85	.51
750	163	122	.85	.51
1,000	141	141	.85	.51
1,500	115	173	.85	.51
2,500	89	223	.85	.51
4,000	70	283	.85	.51
5,000	63	316	.85	.51
7,500	51	387	.95	.57
10,000	43	436	.95	.57
15,000	34	520	.95	.57
25,000	25	630	1.10	.66

50 WATT SIZES—Type KXX

RATING: 50 Watts up to 20,000 ohms in free air, entire element. Higher resistance units rated as listed in table. 4 1/2" long, 5/8" overall diameter, 1/2" inside diameter. Supplied with mounting brackets, 5 3/8" mounting centers, and one adjustable terminal. Has soldering lug terminals.

Ohms	Max. Current in Mills	Max. Voltage	List Price	Net Price
10	2,240	22	\$1.35	\$0.81
25	1,420	35	1.35	.81
50	1,000	50	1.35	.81
100	707	70	1.35	.81
250	447	110	1.35	.81
500	316	158	1.35	.81
750	258	193	1.35	.81
1,000	224	224	1.35	.81
1,500	183	274	1.35	.81
2,500	142	354	1.35	.81
4,000	112	448	1.35	.81
5,000	100	500	1.35	.81
7,500	81	600	1.50	.90
10,000	70	700	1.50	.90
15,000	57	850	1.50	.90
25,000	43	1,070	1.50	.90
40,000	35	1,400	1.70	1.02
50,000	25	1,250	1.70	1.02
75,000	15	1,200	2.00	1.20
100,000	12	1,200	2.00	1.20

100 WATT SIZES—Type NNX

RATING: 100 Watts up to 20,000 ohms in free air, entire element. Higher resistance units rated as listed in table. 6 1/2" long, 1 1/4" overall diameter, 3/4" inside diameter. Supplied with mounting brackets, 7 3/8" mounting centers, and one adjustable terminal. Has soldering lug terminals.

Ohms	Max. Current in Mills	Max. Voltage	List Price	Net Price
25	2,000	50	\$2.00	\$1.20
50	1,414	70	2.00	1.20
100	1,000	100	2.00	1.20
500	447	220	2.00	1.20
1,000	316	315	2.00	1.20
2,500	200	500	2.00	1.20
5,000	141	700	2.00	1.35
10,000	100	1,000	2.25	1.35
15,000	81	1,200	2.25	1.35
20,000	70	1,400	2.25	1.35
25,000	56	1,400	2.25	1.35
40,000	38	1,520	2.50	1.50
50,000	28	1,400	2.50	1.50
75,000	16	1,200	2.75	1.65
100,000	14	1,400	2.75	1.65

160 WATT SIZES—Type PPX

RATING: 160 Watts up to 25,000 ohms in free air, entire element. Higher resistance units rated as listed in table. 8 1/2" long, 1 1/4" overall diameter, 3/4" inside diameter. Supplied with mounting brackets, 9 3/8" mounting centers, and one adjustable terminal. Has soldering lug terminals.

Ohms	Max. Current in Mills	Max. Voltage	List Price	Net Price
25	2,530	63	\$2.50	\$1.50
50	1,788	89	2.50	1.50
100	1,266	126	2.50	1.50
500	566	282	2.50	1.50
1,000	400	400	2.50	1.50
2,500	253	632	2.50	1.50
5,000	179	895	2.50	1.50
10,000	126	1,260	2.50	1.50
15,000	103	1,545	2.90	1.74
20,000	89	1,780	2.90	1.74
25,000	80	2,000	2.90	1.74
40,000	55	2,200	2.90	1.74
50,000	43	2,150	2.90	1.74
75,000	27	2,020	3.25	1.95
100,000	18	1,800	3.25	1.95

200 WATT SIZES—Type UUX

RATING: 200 Watts up to 30,000 ohms in free air, entire element. Higher resistance units rated as listed in table. 10 1/2" long, 1 3/4" overall diameter, 3/4" inside diameter. Supplied with mounting brackets, 11 3/8" mounting centers, and one adjustable terminal. Has soldering lug terminals.

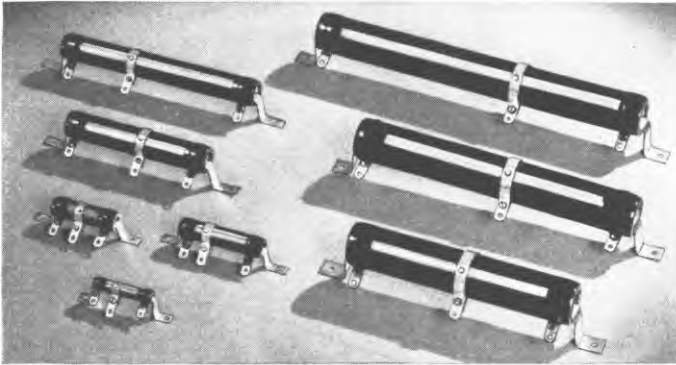
Ohms	Max. Current in Mills	Max. Voltage	List Price	Net Price
25	2,830	70	\$3.00	\$1.80
50	2,000	100	3.00	1.80
100	1,414	140	3.00	1.80
500	632	315	3.00	1.80
1,000	447	447	3.00	1.80
2,500	283	705	3.00	1.80
5,000	200	1,000	3.00	1.80
10,000	141	1,400	3.00	1.80
15,000	115	1,725	3.50	2.10
20,000	100	2,000	3.50	2.10
25,000	89	2,200	3.50	2.10
40,000	63	2,500	3.50	2.10
50,000	49	2,450	3.50	2.10
75,000	30	2,200	3.50	2.10
100,000	20	2,200	3.50	2.10

EXTRA ADJUSTABLE TERMINALS

	List	Net
Type C—For model CCX	\$0.10	\$0.06
Type E—For model EEX	.10	.06
Type K—For model KXX	.10	.06
Type NPU—For models NNX-PPX-UUX	.10	.06

LECTROHM *Vitreous Enameled* RESISTORS

Quality—Accuracy—Dependability—Long Life



WIRE WOUND ADJUSTABLE TYPES

The same high quality and construction are used for LECTROHM Adjustable Resistors as are incorporated in LECTROHM fixed units.

These resistors are used for replacing voltage dividers in radio receivers, for radio transmitter power supply, and for general experimental work.

10-WATT

DIMENSIONS $1\frac{1}{8}'' \times \frac{1}{8}'' \times 1\frac{3}{4}''$
 TERMINALS Lug Type
 MAXIMUM RESISTANCE 10,000 ohms
 MOUNTING BRACKET Centers $2\frac{1}{4}''$

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
1	3150	\$0.55	750	115	\$0.55
2	2280	.55	800	111	.55
3	1825	.55	1000	100	.55
5	1415	.55	1250	89	.55
7.5	1155	.55	1500	79	.55
10	1000	.55	2000	69	.55
15	815	.55	2250	64	.55
20	707	.55	2500	61	.55
25	630	.55	3000	56	.55
50	447	.55	3500	51	.55
75	365	.55	4000	47	.55
100	315	.55	4500	44	.55
150	258	.55	5000	40	.55
200	223	.55	6000	36	.55
250	200	.55	7000	33	.55
300	182	.55	7500	32	.55
350	169	.55	8000	31	.55
400	158	.55	8500	30	.55
500	141	.55	10000	24	.55
600	129	.55			

25-WATT

DIMENSIONS $\frac{1}{2}'' \times \frac{1}{8}'' \times 2\frac{1}{2}''$
 TERMINALS Solder Lug
 MAXIMUM RESISTANCE 25,000 ohms
 MOUNTING BRACKET Centers $3\frac{3}{8}''$

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
1	5000	\$0.75	1000	158	\$0.75
3	2890	.75	1250	141	.75
5	2240	.75	1500	129	.75
10	1580	.75	2000	112	.75
15	1290	.75	2500	100	.75
25	1000	.75	3000	91	.75
50	707	.75	3500	84	.75
75	575	.75	4000	79	.75
100	500	.75	5000	71	.75
150	400	.75	6000	64	.85
200	353	.75	7500	57	.85
250	316	.75	10000	50	.85
300	288	.75	12000	44	.85
400	250	.75	15000	26	.85
500	224	.75	20000	22	1.00
750	182	.75	25000	20	1.00

50-WATT

DIMENSIONS $\frac{3}{4}'' \times \frac{1}{2}'' \times 4\frac{1}{2}''$
 TERMINALS Solder Lugs
 MAXIMUM RESISTANCE 100,000 ohms
 MOUNTING BRACKET Centers $5\frac{1}{2}''$

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	1160	\$1.25	3000	129	\$1.25
10	2280	1.25	4000	112	1.25
25	1410	1.25	5000	100	1.25
50	1000	1.25	7500	81	1.40
75	816	1.25	10000	70	1.40
100	707	1.25	12000	64	1.40
150	577	1.25	15000	57	1.40
200	500	1.25	20000	50	1.40
250	447	1.25	25000	44	1.40
300	408	1.25	30000	41	1.60
400	354	1.25	40000	35	1.60
500	316	1.25	50000	20	1.60
750	258	1.25	60000	18	1.85
1000	224	1.25	75000	17	1.85
1500	182	1.25	80000	16	1.85
2000	158	1.25	100000	14	1.85
2500	141	1.25			

80-WATT

DIMENSIONS $\frac{3}{4}'' \times \frac{1}{2}'' \times 6\frac{1}{2}''$
 TERMINALS Solder Lugs
 MAXIMUM RESISTANCE 100,000 ohms
 MOUNTING BRACKET Centers $7\frac{1}{2}''$

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
10	2830	\$1.50	3500	152	\$1.50
15	2310	1.50	5000	126	1.50
25	1790	1.50	7500	103	1.75
50	1265	1.50	10000	89	1.75
100	894	1.50	15000	73	1.75
250	566	1.50	20000	63	1.75
300	517	1.50	25000	57	1.75
400	495	1.50	30000	51	2.00
500	400	1.50	40000	44	2.00
750	327	1.50	50000	25	2.00
1000	283	1.50	60000	23	2.25
1500	231	1.50	75000	21	2.25
2000	200	1.50	80000	20	2.25
2500	179	1.50	100000	18	2.25

100-WATT

DIMENSIONS $1\frac{1}{8}'' \times \frac{3}{4}'' \times 6\frac{1}{2}''$
 TERMINALS Solder Lugs
 MAXIMUM RESISTANCE 100,000 ohms
 MOUNTING BRACKET Centers $7\frac{1}{2}''$

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
50	1413	\$1.75	15000	81	\$2.00
100	1000	1.75	20000	70	2.00
500	447	1.75	25000	63	2.00
1000	316	1.75	30000	57	2.25
2000	223	1.75	35000	53	2.25
3000	182	1.75	40000	50	2.25
4000	158	1.75	50000	44	2.25
5000	141	1.75	75000	23	2.50
7500	115	2.00	100000	20	2.50
10000	100	2.00			

160-WATT

DIMENSIONS $1\frac{1}{8}'' \times \frac{3}{4}'' \times 8\frac{1}{2}''$
 TERMINALS Solder Lugs
 MAXIMUM RESISTANCE 100,000 ohms
 MOUNTING BRACKET Centers $9\frac{1}{2}''$

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	5660	\$2.35	10000	126	\$2.35
10	4000	2.35	15000	103	2.75
25	2580	2.35	20000	89	2.75
50	1788	2.35	25000	80	2.75
100	1266	2.35	30000	73	2.75
500	566	2.35	40000	55	2.75
1000	400	2.35	50000	43	2.75
2500	253	2.35	75000	27	3.00
5000	179	2.35	100000	18	3.00

200-WATT

DIMENSIONS $1\frac{1}{8}'' \times \frac{3}{4}'' \times 10\frac{1}{2}''$
 TERMINALS Solder Lugs
 MAXIMUM RESISTANCE 100,000 ohms
 MOUNTING BRACKET Centers $11\frac{1}{2}''$

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
50	2000	\$2.75	10000	141	\$2.75
100	1414	2.75	20000	100	3.25
500	632	2.75	25000	89	3.25
1000	447	2.75	30000	81	3.25
1500	361	2.75	50000	63	3.25
2000	316	2.75	75000	51	3.25
2500	288	2.75	100000	28	3.25
5000	200	2.75			

Mounting brackets and one band are furnished with all adjustable types.

ADJUSTABLE LUGS



Screw-Driver Type

Diameter of Resistor	List Price
$\frac{3}{8}''$	\$0.10
$\frac{1}{2}''$	.10
$\frac{3}{4}''$	.15
$1\frac{1}{4}''$	.15

SPRAGUE KOOLOHM RESISTORS

CHECK THESE EXCLUSIVE SPRAGUE FEATURES

★ **NEW RESISTANCE COATING** — BEFORE WINDING, every fractional inch of wire used is perfectly and uniformly insulated. The insulating material is hard, abrasion-resistant, and absolutely impervious to moisture! It conducts heat away from the wire more rapidly than any other material ever used for this purpose.

★ **NO SHORTED TURNS** — In KOOLOHMS the insulation on every bit of wire used completely eliminates the dangers of shorted or moving wire turns, even at highest operating temperatures.

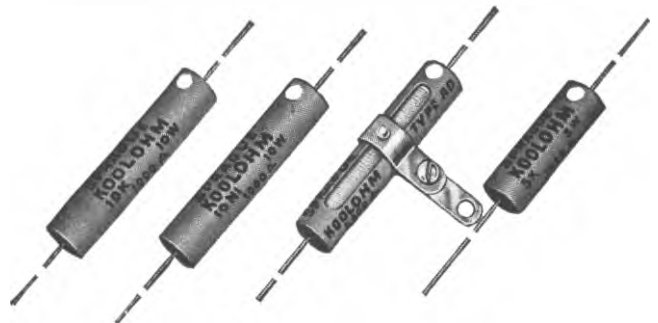
★ **COOLER OPERATION** — The wire in KOOLOHM resistors operates far below the temperatures found in any other coated resistor, making for extra safety! No cements or enamels are used.

★ **LARGER WIRE SIZE** — The perfect insulation allows the resistance wire to be layer wound. This means higher resistances in a given space. The finest wire used in KOOLOHM resistors is $2\frac{1}{4}$ times greater in cross-sectional area than the wires used in other resistors, even for the highest resistance values!

★ **THE ONLY INSULATED POWER WIRE WOUND RESISTOR** — KOOLOHM windings need no overall insulation, but for extra mechanical protection they are electrically insulated in a cylindrical, ceramic shell — a complete insulator and a real lifeguard. No more frail cements or brittle enamels.

★ **TRULY NON-INDUCTIVE RESISTORS** — Non-Inductive KOOLOHM resistors have windings in which each turn has its inductance cancelled by an immediately adjacent turn carrying current going in the opposite direction. The potential gradient between any two adjacent turns is so small as to be negligible. These resistors have the lowest residual inductance and distributed capacitance ever available in a power resistor. Non-Inductive KOOLOHMS are unsurpassed for such uses as plate circuit load resistors, transmission line terminating resistors, impedance matching circuits, etc., at high audio or radio frequencies up to 50 MC.

★ **TELEDOT WATTAGE INDICATOR** — The red dot above the terminal, on the end of each Sprague KOOLOHM resistor, is an automatic overload indicator! Think of it—no voltmeters, milliammeters, thermometers or other gadgets are necessary to tell if KOOLOHMS are being operated at rated wattage! The dot will retain a red shade until the resistor surface reaches a temperature corresponding to 25% overload in free air. When the resistor operates at 25% over rated wattage, the dot will change to brown. If you reduce the load, the brown dot will return to its original color, red. If you run the KOOLOHM resistor continually over its wattage rating, the red color of the spot will change permanently to brown. The "Teledot" indicator is intended only as an operating guide for your convenience — Sprague KOOLOHMS have the additional safety factor of withstanding overloads and excessive temperatures better than any competitive make of the same size and wattage rating.



5 Watts $1\frac{1}{8}'' \times \frac{1}{32}''$ Dia. Catalog Type No. 5-K				10 Watts $1\frac{3}{4}'' \times \frac{1}{32}''$ Dia. Catalog Type No. 10-K			
Resistance in Ohms	Current M.A.	Maximum Volts	List Price	Resistance in Ohms	Current M.A.	Maximum Volts	List Price
5	1000	5.00	\$0.30	5	1414	7.07	\$0.40
10	707	7.07	0.30	10	1000	10	0.40
15	587	8.67	0.30	15	830	12.3	0.40
20	500	10	0.30	20	707	14.1	0.40
25	446	11	0.30	25	630	15.8	0.40
30	406	12	0.30	30	575	17.4	0.40
40	354	14	0.30	40	500	20	0.40
50	316	15	0.30	50	447	22.4	0.40
75	258	19	0.30	75	365	27.4	0.40
100	224	22	0.30	100	316	31.6	0.40
150	183	27	0.30	150	259	38.7	0.40
200	158	31	0.30	200	223	44.6	0.40
250	141	35	0.30	250	200	50	0.40
300	129	38	0.30	300	182	54.7	0.40
400	112	44	0.30	400	158	63.3	0.40
500	100	50	0.30	500	141	70.7	0.40
600	91	54	0.30	600	129	77.6	0.40
700	84	59	0.30	700	119	84	0.40
800	79	63	0.30	750	115	86.9	0.40
900	74	67	0.30	800	112	89.5	0.40
1000	70	70	0.30	900	105	95	0.40
1250	63	79	0.30	1000	100	100	0.40
1500	57	86	0.30	1250	89	112	0.40
1750	53	93	0.30	1500	81	125	0.40
2000	50	100	0.30	1750	75	133	0.40
2500	44	112	0.30	2000	70	143	0.40
3000	40	123	0.30	2500	63	158	0.40
4000	35	141	0.30	3000	57	174	0.40
5000	31	158	0.30	4000	50	200	0.40
6000	28	173	0.35	5000	44	227	0.40
7000	26	187	0.35	6000	41	245	0.40
7500	25	194	0.35	7500	36	275	0.40
8000	25	200	0.35	8000	35	283	0.40
9000	23	212	0.35	9000	33	300	0.40
10000	22	224	0.35	10000	32	316	0.40
12500	20	250	0.40	12000	29	346	0.40
14000	18	265	0.40	14000	26	384	0.40
15000	18	274	0.40	15000	25	400	0.40
20000	15	333	0.45	17500	24	419	0.50
25000	14	354	0.50	20000	21	475	0.50
30000	13	387	0.60	25000	20	500	0.55
40000	11	447	0.75	30000	18	555	0.60
				40000	16	632	0.75
				50000	14	700	0.90
				60000	13	780	1.10
				70000	12	840	1.20

Resistance values up to 60,000 Ohms can be supplied in this size on special order — not carried in stock.

Tolerance guaranteed 5%.

Resistance values up to 100,000 Ohms can be supplied in this size on special order — not carried in stock.

Tolerance guaranteed 5%.

10 Watt Non-Inductive $1\frac{3}{4}'' \times \frac{1}{32}''$ Dia. Catalog Type No. 10-N1				10 Watt Adjustable $1\frac{3}{4}'' \times \frac{1}{32}''$ Dia. Catalog Type No. 10-AD			
Resistance in Ohms	Current M.A.	Maximum Volts	List Price	Resistance in Ohms	Current M.A.	Maximum Volts	List Price
10	1000	10	\$0.50	10	1000	10	\$0.60
20	707	14	0.50	25	630	15.8	0.60
30	575	17	0.50	50	447	22.4	0.60
40	500	20	0.50	100	316	31.6	0.60
50	447	22	0.50	150	259	38.7	0.60
60	408	24	0.50	200	223	44.6	0.60
70	378	26	0.50	250	200	50	0.60
80	354	28	0.50	300	182	54.7	0.60
90	333	30	0.50	400	158	63.3	0.60
100	316	31	0.50	500	141	70.7	0.60
250	200	50	0.50	750	115	86.9	0.60
400	158	63	0.50	1000	100	100	0.60
500	141	70	0.50	1500	81	123	0.60
750	115	86	0.50	2000	70	143	0.60
1000	100	100	0.50	2500	63	158	0.60
1250	89	112	0.55	3000	57	174	0.60
1500	81	123	0.55	4000	50	200	0.60
2000	70	143	0.55	5000	44	227	0.60
2500	63	158	0.60	7500	36	275	0.60
3000	57	174	0.60	10000	32	316	0.60
3500	53	188	0.60				
4000	50	200	0.60				
5000	44	227	0.70				
7500	36	275	0.75				
10000	32	316	1.00				

Extra Bands, \$0.10

YOU CAN USE SPRAGUE KOOLOHMS AT THEIR FULL WATTAGE RATINGS REGARDLESS OF RESISTANCE VALUE

The same "Rubencote" insulation is used on all wire sizes. Therefore, KOOLOHMS will dissipate their rated wattage safely at any resistance value, even the highest! No asterisks or reservations are needed for KOOLOHMS to tell you that the high resistance values won't carry their rating because of fine wires or enamels used on wire. 10 full watts safely dissipated by even 70,000 ohms of resistance for 10-K units.

5% RESISTANCE ACCURACY GUARANTEED

"Rubencote" is such perfect insulation that all possibility of shorted wire turns in manufacture is eliminated. This makes it easy to control resistance accuracy. KOOLOHMS are made to a standard resistance tolerance of 5%. Accuracy of 5% or better is guaranteed for all resistance values!

CONNECTORS SOCKETS



ADAPTERS PLUGS

REPLACEMENT SOCKETS



Regular "S" sockets and "CP" plugs (listed to the right) assembled with No. 4 retainer ring to nickel-plated steel mounting plate with slotted mounting holes to fit riveting centers from 1 1/2" to 1 3/4". Extensively used by servicemen to replace wafer type sockets.

Socket	Plug	Contacts	Net
RS-4	RCP-4	4-contact	7c
RS-5	RCP-5	5-contact	7c
RS-6	RCP-6	6-contact	7c
RS-7S	RCP-7S	7-small	7c
RS-7L	RCP-7L	7-large	7c
RS-7C		*7-L & S	9c
RS-8	RCP-8	8-octal	9c
RS-9	RCP-9	9-contact	11c
RS-11	RCP-11	11-contact	15c
RS-8L		LOKTAL	11c

*Fits both 7-large and 7-small

110-250 VOLT PLUGS AND RECEPTACLES

Receptacles and plugs listed to the right assembled to the mounting plate illustrated above. For mounting on walls, panels, chassis, etc.

Socket	Plug	Contacts	Net
61-F1	2-pole universal		17c
60-F1	3-pole universal		23c

RECEPTACLES
61-M1 — 2 pole standard 17c Net
61-MPI — 2 pole polarized 17c Net
60-M1 — 3 pole polarized 23c Net

VIATOR SOCKETS

Net Price — 12c ea.
Molded black bakelite sockets for most vibrators carried in stock. Supplied complete with mounting plate and No. 4 retainer ring; can be used for replacing wafer or single hole mounting sockets. When ordering send in old socket or diagram of vibrator pin spacings.

LOW-LOSS SOCKETS

Any socket listed on this page available molded from Mica-filled bakelite. Provides 50% better power factor and 33% better dielectric constant. Especially recommended for high frequency use. When ordering add the letter "L" to part number and 8c to Net Price.

TUBE SHIELD BASE

1-19/32" for standard tube shields. Mounts under "S" or "RS" type sockets, held firmly in place without screws or rivets. Has soldering lug for grounding.

No.	TSB-1	Net Price
2c		

SOCKET PUNCHES

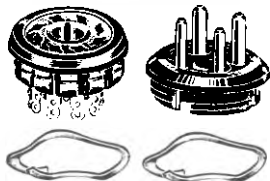
Special dies for punching key hole chassis holes for "S" type sockets, "CP" type plugs and "61" power plugs and receptacles. Used by laboratory men, amateurs and radio parts jobbers. Made of tool steel, properly hardened.

No.	Net
LD-1 for small sockets	\$6.00
LD-2 for large sockets	6.00
LD-3 mike connectors	1.80

Amphenol Sockets and Plug Assemblies are used in most of the better radio receivers, transmitters and test instruments throughout the world. Constructed of the best materials obtainable, molded from high dielectric black bakelite, designed perfectly for the purpose for which they are intended, yet priced so that they may be used by all servicemen, custom set builders, soundmen and amateurs. There is an Amphenol Socket or Plug Assembly for every radio or sound job.

RETAINER RING MOUNTING

"S" TYPE SOCKETS "CP" TYPE PLUGS

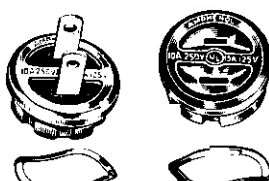


Extremely compact sockets and plugs, requiring less chassis area than the tubes they serve. Held firmly in place by the patented Amphenol No. 4 retainer ring.

Socket	Plug	Contacts	Net
S4	CP4	4-contact	6 1/2c
S5	CP5	5-contact	6 1/2c
S6	CP6	6-contact	6 1/2c
S7S	CP7S	7-small	6 1/2c
S7L	CP7L	7-large	6 1/2c
S7C		*7-L & S	9 1/2c
S8	CP8	8-contact	8 1/2c
S9	CP9	9-contact	10c
S11	CP11	11-contact	14 1/2c
78-8L		LOKTAL	10c

*Fits both 7-large and 7-small

110-250 VOLT PLUGS AND RECEPTACLES



Compact receptacles and plugs, molded from high dielectric black bakelite. Mount without screws or rivets. Held firmly in place with the patented No. 4 retainer ring. 2-pole type accepts any standard electric plug. For polarized cable connectors see next page.

Receptacles	Net
61-F—2-pole universal	15c
60-F—3-pole polarized	21c

Plugs	Net
61-M—2-pole standard	15c
61-MP—2-pole polarized	15c
60-M—3-pole polarized	21c

FOR ABOVE SURFACE

Above sockets, plugs, 110-250 volt plugs and receptacles are available mounted in a light weight aluminum shell which raises the unit 13/16" above or below surface. Four knockouts in side of shell for wire entrance. Ideal for mounting on work benches, breadboard radios, etc. Add 6c to the net price of the unit ordered. Specify "with A/S Shell."

Extended Type	Net
78-7P—7-contact	10c

As above but molded from Amphenol "912-A" pure polystyrene. For U.H.F. applications. 54-7P 21c Net

MINIATURE SOCKETS

FOR RCA

For RCA miniature tubes, 184, 185, 1T4 and 1R5. Mounts in a 3/8" hole, held firmly in place with the No. 2-9 retainer ring. Has center grounding shield.

Socket	Net
78-5P—5-contact	10c

RAYTHEON

For the tiny Raytheon hearing aid tubes, such as CK501, CK502, CK-503 and CK504. Mounts in a 1/2" hole. Held firmly in place by the No. 2-10 retainer ring.

Socket	Net
78-5P—5-contact	10c

FLUSH MOTOR SHELL

Above sockets, plugs, 110-250 volt receptacles and plugs are supplied in this drawn steel shell, finished in burnished nickel. For below surface mounting on all types of radio and electrical apparatus. Add 9c to the net price of the unit selected. Specify "with 61-61 Shell."

SIDE MOUNTING

A versatile outlet for radio and electrical work. Mounts on side of wall, work bench, etc. Supplied with any socket, plug, 110-250 volt receptacle or plug listed above. Add 12c to net price of unit selected. Specify "with 3-33A Cap."

Socket	Net
78-5H—5-contact	10c

PHOTOCELL

For RCA Pee-Wee and Cetron CE-5BB and CE-20 photo cells. Mounts in a 3/8" round hole. Held firmly in place by the No. 2-9 retainer ring.

Socket	Net
S3S—3-contact	8 1/2c

MIP SOCKETS (Molded-in-Plate)



World's strongest socket. Sturdy steel mounting plate molded directly into bakelite body, cannot come loose or vibrate. 1 1/2" mounting centers. Mounts in 1 1/2" hole (MIP20 in 1-9/32" hole). Molded from high dielectric black bakelite.

MIP	Contacts	Net
MIP4	4-contact	6c
MIP5	5-contact	6c
MIP6	6-contact	6c
MIP7S	7-small	6c
MIP7L	7-large	7c
MIP8	8-octal	7c
MIP9	9-contact	9c
MIP11	11-contact	12c
MIP12	12-contact	15c
MIP20	20-contact	30c

MIP LOKTAL

Molded-in-plate socket for loktal tubes. Identical to standard MIP sockets but is smaller in size and has 1-5/16" mounting centers. Mounts in 1-1/16" hole.

Socket	Net
88-8X—Loktal Socket	10c

MIDGET OCTAL

Has all the features of the standard MIP sockets, but is smaller in size. For building compact radios and as the companion socket for the above loktal. Mfg. centers, 1-5/16". Mounts in 1-1/16" hole.

Socket	Net
88-8—Midget Octal	7c

STEATITE SOCKETS

Recommended for high frequency work where high temperatures are encountered such as in transmitters, amplifiers having high output, etc. Slotted mounting holes fit riveting centers from 1 1/2" to 1 3/4".

Socket	Net	
RSS4	4-contact	24c
RSS5	5-contact	24c
RSS6	6-contact	24c
RSS7S	7-small	24c
RSS7L	7-large	24c
RSS8	8-octal	30c

PLUGS

Socket	Net
RCPS6—6-prong plug	24c

U.H.F. SOCKETS (Polystyrene)



Body molded from transparent Amphenol "912-A" (polystyrene). Remarkable LOW-LOSS properties provide greater efficiency for ultra high frequency work than has ever before been possible. Caution—solder fast! Do not heat beyond 200° F. Requires 1 1/2" hole; 1 1/2" mounting centers.

Socket	Net
54-8—Octal	24c
54-8L—Loktal	27c

Amphenol Radio Tube Sockets are patented under U. S. No. 2,087,784 — also foreign patents. Other patents pending.

CONNECTORS SOCKETS

AMPHENOL

ADAPTERS PLUGS

110-250 VOLT CONNECTORS



The most practical of all plugs and cable connectors for use on power lines. Molded bakelite receptacles and plugs described on the preceding page, encased in drawn steel caps, making unbreakable cable terminals that are fully shielded. The cap snaps on and fits securely, but may be removed easily. Cable entrance accommodates cables up to 7/16" in diameter. Rubber grommet protects cables against abrasion. Cable clamp listed below may be used in place of rubber grommet to relieve all strain on connections.

No.	2-Pole Receptacle	Net
61-F4	2-Pole Receptacle	21c
61-M4	2-Pole Standard Plug	21c
61-MP4	2-Pole Polarized Plug	21c
60-F4	3-Pole Receptacle	27c
60-M4	3-Pole Polarized Plug	27c

CABLE CLAMP



Designed primarily for use with "PF" and "PM" Connectors and 110-250 volt connectors described above. Simply remove rubber grommet of connector and slip this grip into place. Relieves soldered connections of all strain. Also used on panels and chassis, to anchor cables firmly in place. Slips easily into any shape hole from 7/16" to 5/8". No screws or rivets required.

CC-4—Cable Clamp6c Net

RUBBER PLUG HANDLE



"PF" or "PM" Connectors and 110-250 volt connectors snap into this rubber handle and are held securely in place by an inner molded shoulder. For easy removal of Connectors plugged into recessed or hard to get at places. Molded from black rubber.

Illustration is cut away to show how connector is gripped by plug handle. RPH—Rubber Plug Handle.9c Net

LOCKING SHELLS



Cadmium-plated steel covers which can be slipped over "PF" and "PM" Connectors and 110-250 volt Connectors. Locks connectors firmly together, preventing accidental pull-aparts. Especially suited for public address work. Also used extensively in shops, etc., for connecting power cords. Set consists of one male and one female threaded shells.

C-CAB—Per Set15c Net

CHASSIS TYPE



Set consists of one threaded shell which fits under "S" type sockets or retainer ring mounting 110-250 volt receptacles listed on preceding page, and one shell which slips over the cable connector.

C-CHA—Per Set15c Net

MULTI-WIRE CABLE CONNECTORS



Made of regular "AMPHENOL" "S" type tube sockets and "CP" plugs, snugly covered by a steel cap that fits tightly but may be removed with an ordinary screw driver. Cover is 1" in height, black japanned. A rubber grommet protects cable from abrasions. Metal cover shields connections and provides an unbreakable cable terminal. Small and sturdy. Accommodates cables to 7/16".

Female	Male	Net
PF4	PM4	4-contact .....15c
PF5	PM5	5-contact .....15c
PF6	PM6	6-contact .....15c
PF7S	PM7S	7-small .....15c
PF7L	PM7L	7-large .....15c
PF8	PM8	8-contact .....15c
PF9	PM9	9-contact .....17c
PF11	PM11	11-contact .....21c

MINIATURE SOCKETS

Small compact sockets which have many uses—For connecting speakers, carbon microphones, doublet antennas, etc. Used wherever space is at a premium. Mount in a plain round hole 5/8" in diameter. No screws or rivets required. Use male cable plugs described below.

SS3—3-contact socket	8½c Net
SS4—4-contact socket	8½c Net
78-5M—5-contact socket	10c Net
78-6M—6-contact socket	10c Net

PHOTO CELL SOCKET

Use SSS listed above as the receptacle for RCA Pee-wee and Cetron CE-5BB a CE-20 Photo cells.

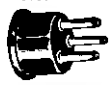
SHIELDED PLUGS



For use where shielded plugs are desired. Male may also be used for making connection to miniature sockets described above. For microphones, speakers and doublet antennas. Cadmium-plated brass shells are 13/16" long, 5/8" in dia. Accepts cables up to 5/16" O.D.

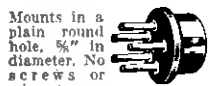
Male	Female	Prongs	Net
MPM3S	MPF3S	3	18c
MPM4S	MPF4S	4	20c
MPM5S	MPF5S	5	22c
MPM6S	MPF6S	6	22c

MINIATURE PLUGS



Extremely compact plugs, used extensively for speaker connections in compact midgets. Also ideal for all plug-in connections where space is limited. Plated brass prongs are deeply recessed in individually molded pockets, preventing shorts due to insulation pulling back. With molded finger grip.

CHASSIS TYPE



Mounts in a plain round hole, 5/8" in diameter. No screws or rivets required. Held firmly in place by the #2-8 tempered steel retainer ring. Use with female Miniature Connectors (MPF3L type) at right above.

Chassis	Cable	Prongs	Net
CP-3S	71-3S	3	8c
CP-4S	71-4S	4	8c
CP-5S	71-5S	5	10c
CP-6S	71-6S	6	10c

2-POLE MINIATURE POWER PLUGS



62-F
Rated at 15 Amps., 115 Volts
10 Amps., 250 Volts

New small power connectors for compact electrical and radio apparatus, such as small motors, home and power sewing machines, drink mixers, etc. Used in radio for connecting phono pick-ups, recorders and other accessories. Ideal for connecting P.M. speakers in public address work. Panel type mounts in 1" round hole with 1-5/16" riveting centers. Has bakelite element, recessed in nickel-plated steel shell. Cable type is 2-piece molded bakelite, assembled with two machine screws. Female units accept either standard or polarized male units. All have convenient solder lugs, no binding screws.

CABLE UNITS

Male	Female	Standard	Net
62-M	62-F	Standard	24c
62-MP	62-F	Polarized	24c

PANEL RECEPTACLES

Male	Female	Standard	Net
62-MI	62-FI	Standard	24c
62-MPI	62-FI	Polarized	24c

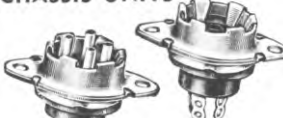
MINIATURE CONNECTORS



Molded bakelite connectors housed in cadmium-plated brass shells. Only 1¼" long and 5/8" O.D. Bakelite element held in place by side set screw. Screw holes in two positions permits recessing male prongs when used as cable connectors. Accommodates cables up to 5/16". When used with shielded cables, shield can be soldered directly to the cadmium-plated shell. Use also with chassis units listed below.

Female	Male	3-contact	Net
MPF3L	MPM3L	3-contact	18c
MPF4L	MPM4L	4-contact	20c
MPF5L	MPM5L	5-contact	22c
MPF6L	MPM6L	6-contact	22c

CHASSIS UNITS



Newly designed chassis connectors which combine Amphénol quality with economy. Ideal for all applications where a compact shielded connector is required. These chassis connectors are ruggedly built. High quality dielectric and low resistance contacts makes it possible to use them in photo cell circuits, etc., where minute currents are handled. For cable connector use Miniature Connectors (MPM3L and MPF3L type) listed above. Mtg. ctrs. 1¼".

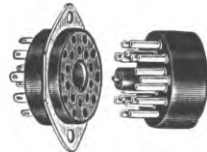
U.H.F. ALIGNMENT TOOL



Molded from pure polystyrene Amphénol "912-A". The only alignment tool manufactured which has no capacity effect upon critical circuits. Supplied with a pencil-type clip so that it is convenient to carry in breast pockets.

55—Alignment Tool24c Net

20-CONTACT SOCKET AND PLUG



Plug is for connecting to cables having up to twenty #18 conductors. Prongs molded directly into bakelite body, eliminating possibility of working loose or getting out of alignment. Each prong set in separate bakelite cell, so that cable insulation may be pulled down into bakelite, preventing shorts due to insulation pulling back. Molded octal type polarizing stud prevents incorrect insertions. Socket has molded-in steel mounting plate. Mounts in a 1-9/32" hole, with riveting centers of 1¼".

70-20—20-prong plug30c Net
MIP-20—20-contact socket30c Net

SPEAKER PLUGS

One-piece molded bakelite body with prongs securely riveted. Each prong is at the bottom of a deep molded hole which houses the wire and prevents shorts due to insulation pulling back. Also provides an economical cable connector for plugging multi-wire cables into amplifiers, remote controls, test instruments, etc.

71-4	4-prong	6½c Net
71-5	5-prong	6½c Net
71-6	6-prong	6½c Net
71-7	7-prong	6½c Net
70-8	8-prong	8½c Net
70-9	9-prong	10c Net
70-12	12-prong	15c Net
70-20	20-prong	30c Net

BLANK SOCKET



Identical in size and appearance to regular "S" type sockets. Mounts in the standard 1-11/64" "S" type socket hole. Can be used as a bakelite bushing by drilling a hole in the center, but primarily designed as a dummy or spare socket. Supplied with a #4 retainer ring for mounting. No screws or rivets required.

78B—Blank Socket3½c Net

HEARING AID SOCKETS AND PLUGS



Especially suited for compact apparatus where plugs and sockets must use a minimum of space. Plugs are often used as supports for self-sustaining coil forms.

70-27	2-prong plug	6c Net
70-25	3-prong plug	8c Net
70-26	4-prong plug	9c Net
77-25	3-contact socket	13c Net
77-26	4-contact socket	15c Net

As above but have contacts adjusted to fit phone tips (.080"). Used to connect two pair of headphones in series or parallel.

77-25S—3-contact socket13c Net
77-26S—4-contact socket15c Net

Products of American Phenolic Corporation

CONNECTORS SOCKETS



ADAPTERS PLUGS

SINGLE CONTACT PRESSURE TYPE CONNECTORS



MC1F MC1M
Completely shielded unbreakable connectors for use with single conductor microphone cable. Shell is chrome-plated machined brass. Coupling ring prevents accidental disconnections. Contact is made when soldered connections are pressed together by tightening the coupling ring. Spring cord protectors accommodate cables to 1/4" dia.
MC1F—Female 30c Net
MC1M—Male 24c Net

CHASSIS UNIT



Mount in .385 hole to ground to chassis. Mount in 1/2" hole when two circuits are desired independent of chassis. Supplied complete with extruded fibre washer, flat fibre washer, flat solder lug washer and locking nut. Use MC1F as the cable connector.
PC1M—Female Chassis Connector 18c Net

CLOSED CIRCUIT CONNECTOR



Same as PC1M but circuit closes when cable connector is removed. Same thread and hardware supplied as on PC1M. Contact is spring-actuated. Use MC1F as the cable connector.
CL-PC1M 24c Net

Same as above but circuit does not close when cable unit is disconnected. Spring pressure makes a more positive contact than PC1M.
SP-PC1M 24c Net

MIKE SWITCH



Compact, unbreakable microphone switch. Easily installed, fully shielded. Male threads fit the MC1F female connector listed above. May be connected directly to any mike which has the PC1M installed. PUSH-TO-TALK and release the button for stand-by; or SLIDE SWITCH FORWARD for permanent connection. Finished in polished chrome.
MC1S—Switch Complete 60c Net

PHONE PLUG ADAPTER



Screws into the coupling ring of the MC1F Cable Connector, permitting the cable to be plugged into any standard phone jack.
MC1P—(Plug Only) 27c Net

1 and 2 CONTACT PLUG-IN CONNECTORS



MC2F MC2M
A new improved connector for shielded 1 or 2 conductor cables. Male has standard 3/32" prong and female has phosphor bronze contact to suit.
80F —1-contact Female 39c Net
80M —1-contact Male 39c Net
MC2F —2-contact Female 48c Net
MC2M —2-contact Male 48c Net

CHASSIS UNITS



Chassis connectors for above. Supplied complete with metal washer and hex. locking nut. Use No. 80-M or MC2M as the cable connector. 21/32" mounting hole.
80-C—1-contact Female 24c Net
PC2F—2-contact Female 27c Net

RIVETING TYPE

Identical to above but has round mounting flange, 1-1/16" in diameter. Two mounting holes on 27/32" centers.
80-CR —1-contact Female 30c Net
PC-2-CR—2-contact Female 33c Net

CAP AND CHAIN



Chrome plated cap for sealing chassis units when not in use. Prevents dust entering, eliminating noisy connections. Net
CCC-1—For PC1M, CL-PC1M, 80-C & PC2F 30c
CCC-3 —For PC3F, PC4F, SP-PC3F, etc. 30c
CCC-8—For P04F, 92-C, etc. 30c

3 and 4 CONTACT MICROPHONE CONNECTORS



MC3M MC3F
Molded bakelite elements encased in unbreakable chrome-plated polarized brass shells. Elements are interchangeable. By removing cap and spring cord protector connector can be screwed into microphone having 5/16"-27 thread, standard for this industry. Screw type coupling ring prevents accidental disconnections. 3-contact connectors take cables up to 1/4" dia.; 4-contact to 3/8" dia.
Male MC3M 60c Net
Female MC3F 60c Net
3-contact 60c Net
4-contact 66c Net

CHASSIS CONNECTORS

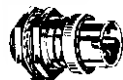


Mounts in 13/16" hole in any panel or chassis up to 1/4" in thickness. Bakelite element fixed permanently in plated-brass shell. Supplied complete with chrome-plated mounting ring, lock washer and hex. lock nut.
PC3F—3-contact female 30c Net
PC4F—4-contact female 33c Net

SPECIAL CHASSIS CONNECTORS



Adjustable to panels up to 3/4" in thickness. Solder lugs recessed, protecting them from physical damage and eliminating danger of shock. Use MC3M or MC4M as cable connector.
FEMALE
SP-PC3F—3-contact 60c Net
SP-PC4F—4-contact 66c Net



Adjustable to panels up to 3/4" Extends in front of panel 1/2". Shell is chrome plated and carries the coupling ring. Use MC3F or MC4F as the cable connector.
MALE
SP-PC3M—3-prong 60c Net
SP-PC4M—4-prong 66c Net

STAND CONNECTOR



Screws on to top of any standard microphone stand. Female thread is 5/8"-27. Finished in polished chrome brass.
SC3F—3-contact 60c Net
SC4F—4-contact 66c Net

SIDE CABLE OUTLET



Designed to be placed between a microphone and stand having 5/8"-27 threads. Its purpose is to provide an outlet for the microphone cable where it is not desired to run it through the stand tubing. Efficient cable grip relieves strain. Heavy metal castings, finished in polished chrome.
SCO3—Side Cable Outlet 45c Net

SHOCK ABSORBER



For use between stand and microphone. A rubber shock absorber encased in metal keeps floor vibrations from microphone. Has standard 5/8"-27 threads, male at one end, female at the other. Has 7/16" opening through the center for mike cable.
MSA3—Shock Absorber 60c Net

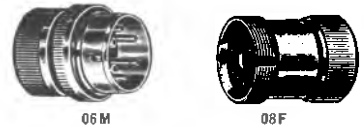
WALL PLATES



Chrome plated wall plates, punched for any Amphenol receptacle, socket or chassis connector. Mounting holes fit directly on standard outlet boxes. When ordering specify which Amphenol product is to be mounted on the wall plate.
84-2CH—Plate Only 45c Net

Complete with 3-contact antenna outlet and 110 volt outlet. Supplied with a miniature 3-prong plug for connecting antenna.
84-AC—Complete assembly 87c Net

4 TO 12 CONTACTS



06M 08F
Fully shielded, unbreakable polarized connectors which will withstand the rough usage of public address work. Drawn brass cadmium-plated shell houses a molded bakelite element. Cable type has a positive strain relief clamp which will accommodate cables up to 1/2" in diameter.

MALE CABLE			FEMALE CABLE		
Male	Female	Net	Female	Male	Net
04M 4-contact	04F 4-contact	\$0.75	04F 4-contact	04M 4-contact	\$0.75
05M 5-contact	05F 5-contact	.75	05F 5-contact	05M 5-contact	.75
06M 6-contact	06F 6-contact	.75	06F 6-contact	06M 6-contact	.75
08M 8-contact	08F 8-contact	.75	08F 8-contact	08M 8-contact	.75
012M 12-contact	012F 12-contact	1.20	012F 12-contact	012M 12-contact	1.20

CHASSIS UNIT

Chassis type mounts in 1 1/4" hole and is supplied complete with lock washer, flat washer and hex. locking nut. Use with Male Cable Connectors.



	Net
P04F — 4-contact	\$0.75
P05F — 5-contact	.75
P06F — 6-contact	.75
P08F — 8-contact	.75
P012F—12-contact	1.20

Heavy Duty POWER CONNECTORS

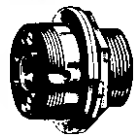


Male Female
92-M—\$1.50 Net 92-F—\$1.50 Net

UL
Has four flat blade prongs and phosphor bronze contacts more than heavy enough to carry 10 amps at 250 volts, 15 amps at 125 volts. Molded bakelite element completely encased in drawn brass, cadmium-plated shell. Listed by Underwriters' Laboratories.

CHASSIS UNIT

Mounts in 1 1/4" hole in any panel or blank outlet cover up to 1/2" in thickness. Easily adapted to standard outlet boxes by use of No. 92-12 Yoke. Use with Male Cable Connector.
92-C—Female \$1.50 Net



"AN" CONNECTORS

Army-Navy Spec. AN9534

Amphenol "AN" connectors are now available for aircraft and industrial use, having 1 to 42 contacts, for carrying from 5 to 200 amperes. 106 different elements are available, housed in every type of shell. For instance, illustrated is a right angle cable unit and a straight connector. Fittings for flexible and rigid conduit, portable cords or shielded cable can be supplied. Your jobber has complete information on this new line of connectors.

Products of American Phenolic Corporation

CONNECTORS SOCKETS

AMPHENOL

ADAPTERS PLUGS

UNIVERSAL GRID CAP



A new universal grid cap for tube checkers. Fits the grid stud of any receiving tube. Body is molded bakelite. A spring brass contact of unique design assures a positive connection at all times. Supplied wired with a flexible 15" lead, No. 20 stranded wire.
63-1W—Black Grid Cap.....12c Net
63-1WR—Red Grid Cap.....12c Net

Same as above but unwired. Contact is easily removed from bakelite body and soldered out in the open. No wire supplied.
63-1—Black Grid Cap.....9c Net
63-1R—Red Grid Cap.....9c Net

IMPEDANCE MATCHING SWITCH



8-position, single pole switch for impedance matching. White numerals, visible through window in cap are standard impedances: 0-2-4-8-16-250-500. Side set screw locks switch in position. Solder lugs protrude through bottom. 1 1/2" mounting centers.

36-2—Impedance Matching Switch.....45c Net

TAP CHANGE SWITCH

Same as above but white numerals are 1-2-3-4-5-6-7-8. Used for all switching purposes.
36-1—Tap Change Switch.....45c Net

BULB TESTER SOCKET



A combination 7-contact tube socket (fits both large and small 7-prong tubes). Has a large center contact for testing dial lights, flashlight bulbs, etc., with either screw or bayonet base.

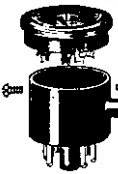
RS7-CD—With Mounting Plate.....27c Net
78-7CD—Retainer Ring Mounting.....26 1/2c Net



Compact socket for testing miniature bulbs such as are used in flashlights, dial lights, Christmas tree strings, etc. Accepts either screw or bayonet base. Mounts in a 5/8" round hole with a No. 2-9 retainer ring.

78-1DL.....18c Net

UNWIRED ADAPTERS



A universal yet simple way for the serviceman or experimenter to make his own adapters. Finished adapter resembles a factory wired job in all respects. Required for modernizing tube checkers and analyzers; for adapting new tubes to old circuits; for bringing out leads to output meter, phono pick up, headphones, extra speaker, etc.

ADAPTER BASES

Bases supplied in 2 styles—With 5/32" side hole for bringing out leads or with a side stud that accommodates a metal tube grip cap. Bases and socket tops drilled for self tapping screws for holding assembly together. Screws supplied with Bases.

Bases are supplied in black only

Number of prongs	With Side Hole	With Side Stud
4-prong	50-4D	50-4G
5-prong	50-5D	50-5G
6-prong	50-6D	50-6G
7-small	50-7SD	50-7SG
8-octal	50-8SD	50-8SG
*7-large	50-7LD	50-7LG
*8-octal	50-8LD	50-8LG

*Fits 7-large and 7-comb. socket tops only.

ADAPTER SOCKET TOPS

Net Price 12c Each

Socket tops available in black, red, green, blue, gray, yellow and brown. Specify color.

FIT SMALL BASES ONLY

No. 44-4—1-contact No. 44-7S—7-small
No. 44-5—5-contact No. 44-8—8-octal
No. 44-6—6-contact No. 44-L—Loktal

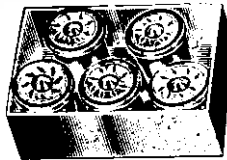
FITS LARGE BASES ONLY

No. 44-7L—7-large No. 44-7C—7-comb.

With Center Locking Stud

7-contact top with center stud for lock-type analyzer plugs. Fits any small base.
No. 44-7SS—Socket Top with Stud.....18 1/2c Net

LOKALT ADAPTERS



Kit contains five adapters which will test any Lokalt tube except the 7E7 and 7F7 in any tube checker, whether factory or custom built. Adapters convert loktals to exact counterparts in octal series.

Adapters are completely wired, ready for use. Socket tops are color coded for easy identification. Supplied with complete instructions.

44-11WK—Complete Wired Kit.....\$3.00 Net

UNWIRED KIT

Same as above but adapters are unwired. Supplied with wiring and testing instructions.
44-11K—Complete Unwired Kit.....\$1.50 Net

SPECIAL LOKALT ADAPTERS

The 7E7 and 7F7 Lokalt tubes require special adapters because of their pin arrangement. Adapters are completely wired and are supplied with instructions.
44-11W7—for 7E7 tube.....60c Net
44-11W8—for 7F7 tube.....60c Net

LOKALT ANALYZER PLUG

Completely Wired

Adapter bottom is Lokalt type plug. Same pin size and pin spacing as Lokalt tubes. Fits on end of analyzer plugs.

No. 44-13-8—With Octal Top.....75c Net
No. 44-13-7—7-contact Top.....75c Net
No. 44-13-6—6-contact Top.....75c Net

With Center Locking Stud

Same as above but 7-contact top has center stud for lock-type analyzer plugs.
No. 44-13-S7—Complete with Stud.....81c Net

FOR SINGLE ENDED TUBES

Kit contains five wired adapters for testing the single ended tubes (without top grid stud) in any checker which has an octal socket. Supplied with complete instructions.
44-14WK—Complete Wired Kit.....\$3.00 Net

UNWIRED KIT

Identical to the above but the adapters are unwired. Supplied with complete wiring and testing instructions.
44-14K—Complete Unwired Kit.....\$1.50 Net

FOR MINIATURE TUBES



Unwired adapters for testing the new miniature tubes. No. 44-17 has a socket top to accommodate the RCA 1S4, 1S5, 1T4 and 1H5. No. 44-12-8 has a socket top to accommodate the Hytron Bantam Jr. tubes, HY113, HY115 and HY125. Both adapters have octal bases.

44-17 —For RCA.....30c Net
44-12-8—For Hytron.....30c Net

SINGLE CONTACT SOCKETS



Molded bakelite single contact sockets. Mount in 5/16" hole. No screws or rivets required. Held firmly in place by Amphenol No. 2-11 retainer ring.

Supplied in 7 different colors and 4 different prong diameters so that circuits can be easily and quickly identified, and high voltage plugs kept out of low voltage sockets. Colors available: black, red, green, blue, yellow, gray and walnut
78-1P—for .080 phone tip.....4 1/2c Net
78-1S—for 3/32" plug.....4 1/2c Net
78-1M—for 1/8" plug.....4 1/2c Net
78-1L—for 5/32" plug.....4 1/2c Net

SINGLE PRONG PLUGS



Smallest yet most practical plugs in the world. Supplied in 7 different colors: black, red, green, blue, yellow, gray and walnut. For use with above sockets.

71-1S—3/32" prong.....3c Net
71-1M—1/8" prong.....3c Net
71-1L—5/32" prong.....3c Net

MAGIC EYE ASSEMBLY



For easily adapting Magic-Eye tubes to any radio having automatic volume control, to F-M receivers, and for constructing test instruments such as signal tracers, etc. A spring clip grips tube base firmly yet permits rotation for proper focusing of eye movement. This spring clip is adjustable in slotted bracket, so tube will extend properly to any thickness panel. One-mergolum target to plate resistor wired into socket. Five-wire color coded cable, 22" long. (All necessary hardware for assembling, with an attractive modernistically styled escutcheon). With instructions.
MEA-6—Complete Assembly.....75c Net

FOR OCTAL MAGIC EYE

Similar to above Magic Eye Assembly but has an octal socket to accommodate 6AF6G, 6AD6G and other electron tuning eyes having an octal base. Supplied with hardware and I-2 escutcheon.
MEA-8—Complete Assembly.....75c Net

CATHODE RAY ASSEMBLY



For mounting the 902 and 913 cathode ray tubes. Ideal foundation for test equipment. Consists of bakelite socket encased in a metal shell, adjustable mounting bracket and 22" 7-wire color coded cable. Unit is completely wired.

913—Complete Assembly.....60c Net

MAGIC EYE ESCUTCHEONS

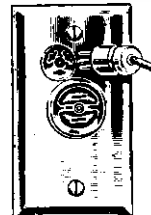


10-1

10-2

For magic eyes. Modernistically designed to match the other components of your apparatus. Finished in antique bronze.
10-1—For 6-prong Single Eye tubes.....15c Net
10-2—For 8-prong Double Eye tubes.....18c Net

ANTENNA OUTLET



Wall plate described below equipped with a 110-volt receptacle and a small 3-contact socket for a doublet or "L" type antenna. Supplied complete with the 3-prong plug for plugging the radio into the antenna outlet. This neat appearing assembly is being used in all modern homes. Wall plate is chrome plated. Sockets are black.

84-AC—Complete Assembly.....87c Net

BLANK WALL PLATES

Chrome-plated with struck-up bevel edge. Connectors, receptacles and sockets mount directly on wall plate. Mounting holes of wall plate spaced 3-5/16" to fit directly on outlet boxes. Punched without charge for any unit.
84-2CH—Wall Plate Only.....45c Net

3-14 ADAPTER SHELL



Formed black-japanned brass tubing. Amphenol "S" type sockets or "CP" type plugs snap into either end and are held securely yet may be removed easily. Any combination possible from 4 prong or contact to 11 prong or contact. Supplied in 2 types. With blank sides or with rubber grommet in side for bringing out leads.

3-14 —Shell, less side hole.....9c Net
3-14D—Shell with side hole.....12c Net

Products of American Phenolic Corporation

CONNECTORS SOCKETS

AMPHENOL

ADAPTERS PLUGS



"912-A" INSULATING BEADS

Pure Polystyrene

No. 73—per box of 250—\$1.50 Net

For Co-Axial Cables; internal leads in television, photo-cell apparatus, etc., for all bare wires charged with high frequency or high voltage current. Easily strung on any size wire up to #12 solid. Ball and socket design permits bending and flexing on a 1" radius without uncovering the wire. Note: Bead diameter 5/16"—Length 7/16" overall—.080" hole. Beads are molded from transparent Amphenol "912-A" pure polystyrene. For stringing solid on wire, 28 beads are required per foot.

SMALL "912-A" INSULATING BEADS

No. 73-1—per box of 500—\$2.70 Net

Identical to above but only 3/16" in diameter and 3/8" long with .040" hole for wire up to #22 stranded. Intended for insulating wires inside of transmitters, television apparatus, test instruments, etc.

Mica-Filled Beads For High Temperatures

No. 73-T—per box of 250—\$3.00 Net

Identical to No. 73 Beads but molded from ultra-low-loss tan color Mica-filled bakelite. Exceeded only by Amphenol "912-A" polystyrene. For use where high temperatures are encountered. 29 beads required per foot to string cable solid.

TWINAX BEADS (2-CONDUCTOR)

No. 73-2—per box of 250—\$1.95 Net

For making a balanced transmission line. Same shape as #73 Beads but accommodate two #18 solid wires. Hole diameter .050"; length 1/2"; overall diameter 11/32". 27 beads will fill one foot of cable. Beads molded from Amphenol "912-A" polystyrene.

AMPHENOL No. 72-12 CO-AXIAL CABLE

72 Ohm Shielded Concentric Transmission Line

No. 72-12—30c per foot Net



MATCHES A HALF WAVE ANTENNA

A new Amphenol Co-Axial Cable especially engineered for efficiently transmitting energy from Xmitters to antennas. Also widely used as television receiver lead-ins, test instrument leads, photo-cell lines, long microphone cables, etc. #12 solid center conductor. Lacquered double cotton braid over shielding. Surge impedance 72 ohms.

Comparison between Amphenol Co-Axial Cable and other cables.

LINE LOSS IN WATTS WHEN 1000 WATTS ARE FED INTO 100 FEET

Wave Length Meters	These Figures Represent Actual Wattage Loss.				
	Shielded Ignition Cable	Best Twisted Pair	Best Rubber Co-Axial	AMPHENOL CO-AXIAL CABLE	AMPHENOL COPPER TUBING CABLE
2 1/2	920	800	700	320	210
5	800	645	553	249	162
10	637	463	411	186	121
20	460	324	308	133	88
40	324	206	206	110	65
80	206	133	135	60	49
160	143	83	92	45	39

72 OHM WEATHER PROOFED CO-AXIAL CABLE

May be Buried in the Ground

No. 72-12W—54c per foot Net

Same as above but has an outer covering of Amphenol "920", a synthetic resin which is impervious to all weather conditions. Moisture absorption is nil. Will not deteriorate when exposed to ultra-violet rays. Surge impedance 72 ohms.

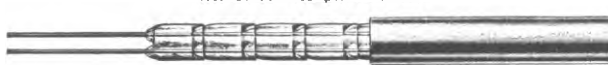
78 OHM COPPER TUBING TRANSMISSION LINE

No. 72-12C—30c per foot Net

Constructed of 3/8" I.D. soft-drawn copper tubing, #12 solid copper wire strung solid with No. 73 ultra-low-loss beads. Widely used in both Amateur and low power Commercial installations. Surge impedance 78 ohms.

DUAL CABLE FOR BALANCED LINES

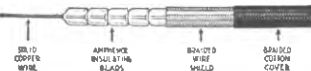
No. 81-18—48c per foot Net



Cable is constructed with two No. 18 solid tinned copper wires strung with No. 73-2 polystyrene beads. Ball and socket design permits bending cable on short radii without baring conductors. Cable shield is 3/8" I.D. electrical copper tubing. Ideal for television, FM and other high frequency receiver lead-ins. Both conductors balanced against ground. Surge impedance 150 ohms.

SMALL CO-AXIAL CABLES

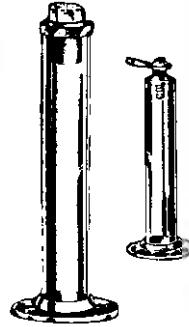
No. 76-22S—30c per foot Net
FOR TEST INSTRUMENTS, etc.



Similar in construction to the No. 72-12 Co-Axial Cable but "912-A" insulating beads are only 3/16" diameter. Overall diameter 3/8". Primarily designed for test instrument leads, internal leads inside apparatus and for patch cords. #22 stranded inner conductor. Surge impedance 100 ohms.

Amphenol "912-A" is pure polystyrene which has outstanding electrical characteristics. For the high and ultra-high frequencies, no other insulating material can compare with it in low-loss properties. Dielectric strength 500-700 V. per mil; Dielectric constant 2.55; Power factor at 1 mc.—.00016, at 10 mc.—.0002

STAND-OFF INSULATORS



Ultra low-loss. Formed from Amphenol "912-A" pure polystyrene. For indoor or outdoor use. Non-hygroscopic.

Will not break when dropped or subjected to hard blows as do ceramics or glass. Type "A" has insulation 1/2" in diameter. Wire is held in place by screw or solder lug. Type "B" has insulation 3/8" in diameter. Brass insert in top of insulator has "V" shaped slots so that wire can be securely clamped in place. Hex screw head permits use of wrenches for binding wire in place.

No.	Type	Length	Net
66-1	"A"	1 1/2"	30c
66-2	"A"	2 1/2"	36c
66-3	"B"	2 7/8"	66c
66-4	"B"	4 1/2"	81c
66-5	"B"	6"	90c

POLYSTYRENE UNIVERSAL INSULATOR

FEED-THROUGH — STAND-OFF — LEAD-IN

Has a multitude of applications. Sectional construction allows use as feed-through, stand-off, lead-in, etc., by assembling parts in different ways. Insulator sleeve fits into base from either side. Sleeves also fit into each other so that extra long insulators can be assembled, using parts and hardware listed below. Liquid "912" may be used to "weld" joints together, and to weather-proof assembly.

Base and sleeve both molded from transparent Amphenol "912-A" (polystyrene). Hardware is nickel-plated brass. "Stub" insulator consists of base only, with top and bottom fittings and short connecting rod. Ideal for mounting coils, condensers, etc., and for H.F. panel bushing.

No.	Description	Net
66-60	Universal insulator, complete with hardware	60c
66-61	"Stub" insulator, complete with hardware	48c

PARTS AND HARDWARE					
No.	Part	Net	Part	Net	
66-60B	Base only	15c	66-167	5/8" long Rod	9c
66-60T	Sleeve only	15c	66-168	2 5/8" long Rod	10 1/2c
66-165	Top Fitting	12c	66-169	4 5/8" long Rod	12c
66-166	Bottom Hex Nut	9c	66-170	6 5/8" long Rod	15c

CO-AXIAL CABLE CONNECTORS



Unbreakable, shielded cable connectors for any co-axial cable up to 13/32" in dia. May be reamed out to fit cables up to 9/16". Insulation is ultra-low-loss Amphenol "912-A" polystyrene. Screw type locking ring prevents accidental disconnections. Supplied with wiring instructions.

93-M—Male with coupling ring	90c Net
93-F—Female with coupling threads	90c Net
93-C—Female chassis unit	75c Net

*Use 93-M as cable connector.

ANTENNA CABLE END TERMINAL

The ideal terminal for connecting any co-axial cable to open wires such as antennas, matching stubs, etc.; can be hung in the air or assembled to a bracket or insulator in a 25/32" hole, taking all strain off the center conductor. May be "sweated" on copper tubing cable. Body solder-lug is provided so that it can be used with di-pole and doublet receiving aerials.

93-M5—Antenna Cable End Terminal 90c Net

END TERMINAL CAP

Screws on to outer end of Cable End Terminal listed above. Umbrella-design cap is molded from Amphenol "912-A" (polystyrene) ultra-low-loss insulating material; 1-7/32" diameter, 1/2" high. For a positive, weather-proof seal, threads and wire opening should be painted with Liquid "912."

90-15—End Terminal Cap 36c Net

SHIELD CLAMP

An efficient clamp for connecting a wire to the shield of any co-axial cable using from 3/16" to 5/16" dia. beads. Formed from brass, cadmium plated to prevent corrosion. Tightens firmly against cable shield by means of the supplied screw and nut.

72-25—Shield Clamp 6c Net



PLUG-IN COIL FORMS



Molded from Amphenol "912-A" pure polystyrene, the losses are practically zero. Coils wound on these forms superior to air wound coils because dirt cannot gather between windings and drop "Q" of coil. Prong spacing fits standard tube sockets. Use Amphenol Mica-Filled sockets as the receptacle. Diameter of coil 1 1/4"; length of body 2 1/4". Impregnate wound coils with Liquid "912".

- 24-4P—4-prong 30c Net
- 24-5P—5-prong 33c Net
- 24-6P—6-prong 36c Net

MINIATURE COIL FORM



Ultra low-loss; molded from Amphenol "912-A" pure polystyrene. Has raised hole in center of base to accept self tapping screw. For mounting directly on wave band switch, tuning condenser or chassis. No holes for windings because it is simple to drill them exactly where they are needed.

- 24—Coil Form 9c Net

MINIATURE PLUG-IN TYPES



Small plug-in coil forms, molded from Amphenol "912-A" polystyrene insulation. Only 3/8" in diameter. Especially designed for use in transmitters, low-power transmitters and receivers which work the ultra-high frequencies.

No holes are provided for the ends of the coil windings because it is simple to drill holes exactly where they are wanted.

Use 54-5H and 54-6H Miniature sockets listed below as the coil form receptacles.

- 24-5H—5-prong 24c Net
- 24-6H—6-prong 24c Net

U.H.F. MINIATURE SOCKETS



Molded from Amphenol "912-A" (polystyrene), 5 and 6-contact sockets designed for use with Miniature Coil Forms above, to keep coil and circuit losses in U.H.F. equipment at a minimum. Also fit Hytron Bantam Jr. tubes.

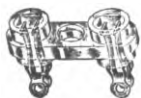
- 54-5H—5-contact Socket 21c Net
- 54-6H—6-contact Socket 21c Net

FOR R.C.A. MINIATURE TUBES

7-contact U.H.F. socket for the tiny R.C.A. miniature tubes, such as 1R5, 1S5, 1S4 and 1T4.

- 54-7P—7-contact Socket 21c Net

CRYSTAL HOLDER SOCKET



For plugging in standard quartz-crystal holders. Body molded of Amphenol "912-A" (polystyrene). Contacts are of special phosphor bronze, silver plated to keep resistance at a minimum.

- 54-2 18c Net

U.H.F. TIP JACK



Contact accommodates .080" phone tip. Contact may be removed and the transparent Amphenol "912-A" polystyrene body used as a high frequency thru-panel bushing. Mounts in a plain round 5/8" hole, and is held in place with the No. 2-9 retainer ring.

- 54-1H—U.H.F. Tip Jack 15c Net

"912-A" and "912-B" Ultra-Low-Loss Insulating Material

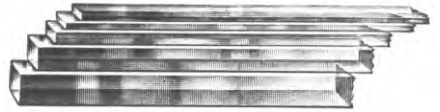
Water-clear transparent insulating materials now being used by many manufacturers and amateurs for all H.F. applications. "912-A" is pure polystyrene which has the electrical characteristics of fused quartz. "912-B" has added plasticizers so that the material can be easily machined.

Electrical Characteristics

	Amphenol "912-A"		Amphenol "912-B"	
	1 Mc	10 Mc	1 Mc	10 Mc
Power factor .....	.00016	.0002	.0094	.011
Dielectric Constant	2.55	2.55	4.1	4.1
Loss Factor .....	.0004	.0005	.039	.045

"912-B" STRIPS

Recommended for making every type of low-loss insulator — Trimmer bases, terminal strips, bushings, open wire transmission line spreaders, mountings for binding posts and pin jacks, coil supports, etc.



ALL STRIPS ARE 12" IN LENGTH

No.	Size	Net	No.	Size	Net	No.	Size	Net
65TS1-250	1/16"x1/4"	\$0.15 1/2	65TS2-250	1/8"x1/4"	\$0.23	66TS3-250	3/16"x1/4"	\$0.34
65TS1-500	1/16"x1/2"	.21	65TS2-500	1/8"x1/2"	.34	65TS3-500	3/16"x1/2"	.50
65TS1-750	1/16"x3/4"	.25	65TS2-750	1/8"x3/4"	.43	65TS3-750	3/16"x3/4"	.63
65TS1-1000	1/16"x1"	.31	65TS2-1000	1/8"x1"	.54	65TS3-1000	3/16"x1"	.80

No.	Size	Net	No.	Size	Net	No.	Size	Net
65TS4-250	1/4"x1/4"	\$0.43	65TS6-250	3/8"x1/4"	\$0.64	65TS8-250	1/2"x1/4"	\$0.82
65TS4-500	1/4"x1/2"	.65	65TS6-500	3/8"x1/2"	.96	65TS8-500	1/2"x1/2"	1.25
65TS4-750	1/4"x3/4"	.82	65TS6-750	3/8"x3/4"	1.20	65TS8-750	1/2"x3/4"	1.60
65TS4-1000	1/4"x1"	1.05	65TS6-1000	3/8"x1"	1.56	65TS8-1000	1/2"x1"	2.07

"912-B" SHEET STOCK

Supplied in sheets 12" x 16"

No.	Thickness	Net
65-062	1/16"	\$2.40
65-125	1/8"	4.80
65-250	3/16"	9.60
65-375	1/4"	14.40

"912-B" ROD

There is a cutting charge for pieces less than 12" long. Available in lengths up to 48".

No.	Dia.	per ft.	No.	Dia.	per ft.
65R375	3/8"	\$0.27	65R750	3/4"	\$0.99
65R500	1/2"	.48	65R875	7/8"	1.44
65R625	5/8"	.75	65R1000	1"	1.86

"912-A" ROD

Pure Polystyrene
12" lengths of ultra low-loss pure polystyrene rod (see electrical characteristics at top of page) for making couplings, special coil forms, etc. Price is for 12" length.

Dia.	Net	Dia.	Net
1/8"	\$0.24	3/8"	\$0.75
1/4"	.27	1/2"	.99
3/8"	.48	3/4"	1.86

"912-A" SQUARES

Pure polystyrene. Available in 4" x 4" squares for many ultra low loss applications.

Size	Net	Size	Net
1 1/16"x4"x4"	\$0.48	3 1/16"x4"x4"	\$0.60
1 1/4"x4"x4"	.54	3 3/4"x4"x4"	.60

ULTRA-LOW-LOSS COIL DOPE

Amphenol "912-A" polystyrene reduced to liquid form. Does not affect electrical characteristics of coil windings. Unequaled for sealing pores of fibre, cardboard, ceramics, paper and other moisture absorptive materials. Used for cementing parts made of Amphenol "912-A". Supplied with brush.



No.	Net
53-2	2 oz. Liquid "912" 30c
53-4	4 oz. Liquid "912" 39c
53-2T	2 oz. Thinner 15c

U.H.F. OCTAL

Body molded from transparent Amphenol "912-A" polystyrene. Remarkable LOW-LOSS properties which provides greater efficiency on high frequency work than has ever before been possible. The only caution to be emphasized is that they should never be heated beyond 200° F. Requires 1 1/4" hole; mounting centers 1 1/2".



- 54-8—U.H.F. Octal Socket 24c Net

U.H.F. LOKTAL SOCKET

As above but for the all-glass Loktal tubes. For use in U.H.F. apparatus.

- 54-8L—U.H.F. Loktal Socket 27c Net

"912-B" TUBING

There is a cutting charge for pieces less than 12" long. Available in continuous lengths up to 48".

No.	Outside Diameter	Wall Thickness	Net Per Foot
65T1-125	1 1/2"	1/8"	\$1.44
65T2-125	1 3/4"	1/8"	1.71
65T3-125	2"	1/8"	1.92
65T4-125	2 1/4"	1/8"	2.25
65T5-125	2 3/4"	1/8"	2.58
65T6-125	3"	1/8"	2.67
65T7-187	2 1/2"	3/16"	4.68
65T8-187	3"	3/16"	4.68

"912-B" THIN FLEXIBLE SHEETS

Thin flexible sheet stock available in sheets 20" x 50".

Thickness	Net	Net
.001"	\$0.24	.015" \$3.39
.002"	.48	.020" 4.56
.003"	.72	.025" 7.50
.005"	1.20	.030" 8.85
.0075"	1.74	.040" 11.28
.010"	2.28	.045" 12.72
.0125"	3.06	.050" 13.80

"901" CEMENT

For cementing Amphenol "912-B" material. Actually fuses parts together instead of merely gluing them. Eliminates screws and rivets when making parts from "912-B" Sheet Stock, Rod and Tubing. (NOTE: For cementing "912-A" materials use coil dope listed to the left.)

No.	Net
53-901-2	2 oz. "901" Cement 30c
53-901-4	4 oz. "901" Cement 39c
53-901-2T	2 oz. Thinner 15c

Ultra-Low-Loss "912-B" Ribbon



A strong, water-clear, transparent, flexible insulating material to take the place of papers, treated fabrics and other thin dielectrics used in winding condensers, transformers, etc. Used as a wrapped insulation for wires, bars and cable terminals and splices.

100 Foot Rolls Individually Packaged

No.	Thickness	Width	Net
65-001	.001"	3/4"	\$0.30
65-005	.005"	3/4"	1.50

RIBBON CEMENT

Cement for above ribbon. Water-clear transparent.

- 53-207-2 — 2 oz. Cement 30c Net
- 53-207-2T—2 oz. Thinner 15c Net



TERMINAL STRIPS



NO. 6-76 TERMINAL STRIP (Actual Size)

Please note all terminal strips are listed 2 contact, 3 contact, 4 contact, 5 contact and 6 contact. The illustration for each type of terminal shows a single terminal, in order to condense the listing.

A differential is also given to compute the price of strips having more than 6 contacts. Information for computing mounting hole centers, etc., is also supplied. If extra long strips are required, additional mounting holes should be specified at intervals. The additional list per extra mounting hole is 5 per cent of the 6 contact list.

All terminals are brass. Terminals with solder tab are tin plated. Terminals with screw connections only, are nickel plated. All binder head screws are brass, nickel plated.

PLUGS AND SOCKETS

Two lines of multi-circuit plugs and sockets are listed in this catalog: 300 series and 400 series.

300 series is designed for light duty and recommended for voltages up to 24 Volts, although circuit characteristics may permit use on considerably higher voltages.

400 series is designed for higher voltages, and may be safely used on 110 Volts at 5 Amperes. Likewise, circuit characteristics may permit higher ratings.



PLUG—P406-CCT
SOCKET—S406-AB

During our many years of manufacturing electrical connecting devices, we have always tried to improve our products, rather than make them cheaper. As a result, our business has steadily grown. For years we have been supplying the largest and best known manufacturers in the United States and foreign countries.

In general, where brass, phosphor bronze or copper should be used, it is used. We do not make parts of steel and brass plate them to save money. All terminal screws are solid brass, with special large binder heads, finished in burnished nickel plate. The grade of bakelite, both laminated and molded, is selected to fulfill the requirements of its intended use. All items are carefully inspected before shipping.

You will find business relations with us pleasant. Orders shipped promptly and correspondence answered the same day received.



SERIES 140, 141 AND 142 TERMINAL STRIPS

Series 140, 141 and 142 terminal strips provide barriers between terminals. Barriers follow around the edges of the strip flush with the base. These barriers not only make a long leakage path, but prevent direct shorts from frayed wires at the terminals.

Both terminals and binder screws are of brass, nickel plated. The insulation is of molded bakelite.

White characters may be imprinted on the edges of the strip, between the barriers and directly below the terminal screws. See catalog page on "Engraving" for prices on this work.



No. 140

3/4" wide by 13/32" high
Terminal centers 3/8"
Screws 5-40 x 3/16"



No. 141

1 1/8" wide by 1/2" high
Terminal centers 7/16"
Screws 6-32 x 1/4"



No. 142

1-5/16" wide by 5/8" high
Terminal centers 9/16"
Screws 8-32 x 5/16"

Code	Price Ea.	Code	Price Ea.	Code	Price Ea.
No. 2-140	\$.19	No. 2-141	\$.24	No. 2-142	\$.29
No. 3-140	.26	No. 3-141	.33	No. 3-142	.40
No. 4-140	.33	No. 4-141	.42	No. 4-142	.51
No. 5-140	.40	No. 5-141	.51	No. 5-142	.62
No. 6-140	.47	No. 6-141	.60	No. 6-142	.73
No. 7-140	.54	No. 7-141	.69	No. 7-142	.84
No. 8-140	.61	No. 8-141	.78	No. 8-142	.95
No. 9-140	.68	No. 9-141	.87	No. 9-142	1.06
No. 10-140	.75	No. 10-141	.96	No. 10-142	1.17

For terminal strips with more than 10 terminals, add differential shown below, to the 10 terminal price, for each additional terminal.

No. 140	\$.07 (Maximum length 21 terminals)
No. 141	.09 (Maximum length 20 terminals)
No. 142	.11 (Maximum length 17 terminals)

500 SERIES PLUGS AND SOCKETS

Designed for 5,000 volts and 25 amperes per contact. Circuit characteristics, however, may alter this rating one way or the other.

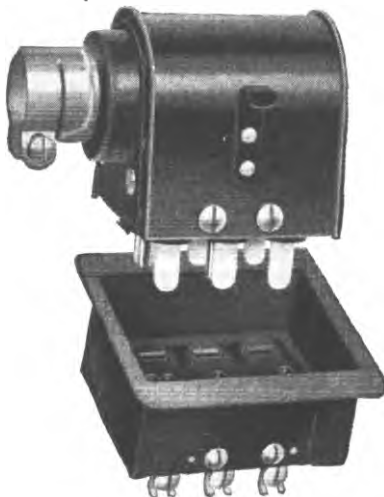
Long leakage path from terminal to terminal, and terminal to ground. Contacts are brass and phosphor bronze, silver plated. Metal parts of caps and brackets are steel, parkerized (rust-proofed). Plug and socket blocks are interchangeable in caps and brackets.

All sizes are polarized in a manner to prevent a smaller plug being inserted in a larger socket. Thus different sizes may be used on one installation without danger of making wrong connections.

Extreme care has been taken to make terminal connections under cap very accessible both for original wiring and subsequent inspection. The cap is divided into two parts. The main part may be removed at any time exposing all connections. The cap is insulated with canvas bakelite.

IMPORTANT: For safety with high voltages DEEP BRACKETS should always be used on one plug or socket, when the other plug or socket has a CAP. SHALLOW BRACKETS are for use only in connecting two units, each unit having plug or socket with SHALLOW BRACKET.

For complete information write for bulletin 500.



PLUG P-506 CE
SOCKET S-506 DB

PLUG With Cap		PLUG With Deep Bracket		PLUG With Shallow Bracket	
Code	Price Ea.	Code	Price Ea.	Code	Price Ea.
P-502 CE	\$2.00	P-502 DB	\$1.75	P-502 SB	\$1.75
P-504 CE	2.85	P-504 DB	2.50	P-504 SB	2.50
P-506 CE	3.70	P-506 DB	3.25	P-506 SB	3.25
P-508 CE	4.55	P-508 DB	4.00	P-508 SB	4.00
P-510 CE	5.40	P-510 DB	4.75	P-510 SB	4.75
P-512 CE	6.25	P-512 DB	5.50	P-512 SB	5.50

SOCKET With Cap		SOCKET With Deep Bracket		SOCKET With Shallow Bracket	
Code	Price Ea.	Code	Price Ea.	Code	Price Ea.
S-502 CE	\$2.00	S-502 DB	\$1.75	S-502 SB	\$1.75
S-504 CE	2.85	S-504 DB	2.50	S-504 SB	2.50
S-506 CE	3.70	S-506 DB	3.25	S-506 SB	3.25
S-508 CE	4.55	S-508 DB	4.00	S-508 SB	4.00
S-510 CE	5.40	S-510 DB	4.75	S-510 SB	4.75
S-512 CE	6.25	S-512 DB	5.50	S-512 SB	5.50



SERIES 135, 136 AND 137 TERMINAL STRIPS

Terminal strips in this series should be selected when a strong, neat terminal is required. There are three types and each type has four different arrangements for permanent connections within the equipment on which the strips are used. The illustrations show clearly the design of each terminal. The large main screw in every

case is an 8-32 x $\frac{3}{8}$ " brass binder head type. The small screws are 5-40, brass. All screws as well as terminals, are tin plated.

This group provides a terminal for practically every requirement. Their use will improve the appearance of your merchandise. Being rugged will stand a lot of hard usage and give trouble-free service.



NO. 135-A TERMINAL STRIPS

Terminal .050" Brass, Tin Plated

Screw and solder terminal with both connections on same side of panel. Solder terminal slotted for attaching several wires.

Screw: 8-32 x $\frac{3}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1" wide, $\frac{1}{8}$ " thick. Terminals mounted on $\frac{3}{4}$ " centers. Mounting holes $\frac{3}{4}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-135-A (2 Terminals)	\$.29	No. 5-135-A (5 Terminals)	\$.59
No. 3-135-A (3 Terminals)	.39	No. 6-135-A (6 Terminals)	.69
No. 4-135-A (4 Terminals)	.49		

For terminal strips with more than 6 terminals, add 10c to the No. 6-135-A price for each additional terminal.



NO. 136-C TERMINAL STRIPS

Terminal .050" Brass, Tin Plated

Similar to No. 136-A, except that tab terminal is equipped with one 5-40 x $\frac{1}{4}$ " screw and one soldering hole.

Terminal screw: 8-32 x $\frac{3}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite, $\frac{11}{16}$ " wide, $\frac{1}{8}$ " thick. Terminals mounted on $\frac{3}{4}$ " centers. Mounting holes $\frac{3}{4}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-136-C (2 Terminals)	\$.37	No. 5-136-C (5 Terminals)	\$.73
No. 3-136-C (3 Terminals)	.49	No. 6-136-C (6 Terminals)	.85
No. 4-136-C (4 Terminals)	.61		

For terminal strips with more than 6 terminals, add 12c to the No. 6-136-C price for each additional terminal.



NO. 135-B TERMINAL STRIPS

Terminal .050" Brass, Tin Plated

Similar to No. 135-A, except the solder terminal has two holes instead of slot.

Screw: 8-32 x $\frac{3}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1" wide, $\frac{1}{8}$ " thick. Terminals mounted on $\frac{3}{4}$ " centers. Mounting holes $\frac{3}{4}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-135-B (2 Terminals)	\$.29	No. 5-135-B (5 Terminals)	\$.59
No. 3-135-B (3 Terminals)	.39	No. 6-135-B (6 Terminals)	.69
No. 4-135-B (4 Terminals)	.49		

For terminal strips with more than 6 terminals, add 10c to the No. 6-135-B price for each additional terminal.



NO. 136-D TERMINAL STRIPS

Terminal .050" Brass, Tin Plated

Similar to No. 136-A, except that tab terminal is equipped with two 5-40 x $\frac{1}{4}$ " screws.

Terminal screw: 8-32 x $\frac{3}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite, $\frac{11}{16}$ " wide, $\frac{1}{8}$ " thick. Terminals mounted on $\frac{3}{4}$ " centers. Mounting holes $\frac{3}{4}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-136-D (2 Terminals)	\$.41	No. 5-136-D (5 Terminals)	\$.83
No. 3-136-D (3 Terminals)	.55	No. 6-136-D (6 Terminals)	.97
No. 4-136-D (4 Terminals)	.69		

For terminal strips with more than 6 terminals, add 14c to the No. 6-136-D price for each additional terminal.



NO. 135-C TERMINAL STRIPS

Terminal .050" Brass, Tin Plated

Similar to No. 135-A, except tab terminal is furnished with one 5-40 x $\frac{1}{4}$ " screw and one soldering hole.

Terminal screw: 8-32 x $\frac{3}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1" wide, $\frac{1}{8}$ " thick. Terminals mounted on $\frac{3}{4}$ " centers. Mounting holes $\frac{3}{4}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-135-C (2 Terminals)	\$.33	No. 5-135-C (5 Terminals)	.69
No. 3-135-C (3 Terminals)	.45	No. 6-135-C (6 Terminals)	.81
No. 4-135-C (4 Terminals)	.57		

For terminal strips with more than 6 terminals, add 12c to the No. 6-135-C price for each additional terminal.



NO. 137-A TERMINAL STRIPS

Terminal .050" Brass, Tin Plated

Screw terminal with screw terminal mounted vertical above panel and with slotted solder terminal below.

Screw: 8-32 x $\frac{3}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1" wide, $\frac{1}{8}$ " thick. Terminals mounted on $\frac{3}{4}$ " centers. Mounting holes $\frac{3}{4}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-137-A (2 Terminals)	\$.29	No. 5-137-A (5 Terminals)	\$.59
No. 3-137-A (3 Terminals)	.39	No. 6-137-A (6 Terminals)	.69
No. 4-137-A (4 Terminals)	.49		

For terminal strips with more than 6 terminals, add 10c to the No. 6-137-A price for each additional terminal.



NO. 135-D TERMINAL STRIPS

Terminal .050" Brass, Tin Plated

Similar to No. 135-A, except that tab terminal equipped with two 5-40 x $\frac{1}{4}$ " screws.

Terminal screw: 8-32 x $\frac{3}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite, Terminals mounted on $\frac{3}{4}$ " centers. Mounting holes $\frac{3}{4}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-135-D (2 Terminals)	\$.37	No. 5-135-D (5 Terminals)	\$.79
No. 3-135-D (3 Terminals)	.51	No. 6-135-D (6 Terminals)	.93
No. 4-135-D (4 Terminals)	.65		

For terminal strips with more than 6 terminals, add 14c to the No. 6-135-D price for each additional terminal.



NO. 137-B TERMINAL STRIPS

Terminal .050" Brass, Tin Plated

Similar to No. 137-A, except the solder terminal has two holes instead of being slotted.

Screw: 8-32 x $\frac{3}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1" wide, $\frac{1}{8}$ " thick. Terminals mounted on $\frac{3}{4}$ " centers. Mounting holes $\frac{3}{4}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-137-B (2 Terminals)	\$.29	No. 5-137-B (5 Terminals)	\$.59
No. 3-137-B (3 Terminals)	.39	No. 6-137-B (6 Terminals)	.69
No. 4-137-B (4 Terminals)	.49		

For terminal strips with more than 6 terminals, add 10c to the No. 6-137-B price for each additional terminal.



NO. 136-A TERMINAL STRIPS

Terminal .050" Brass, Tin Plated

Screw terminal above panel with slotted solder terminal below panel.

Screw: 8-32 x $\frac{3}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite, $\frac{11}{16}$ " wide, $\frac{1}{8}$ " thick. Terminals mounted on $\frac{3}{4}$ " centers. Mounting holes $\frac{3}{4}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-136-A (2 Terminals)	\$.33	No. 5-136-A (5 Terminals)	\$.63
No. 3-136-A (3 Terminals)	.43	No. 6-136-A (6 Terminals)	.73
No. 4-136-A (4 Terminals)	.53		

For terminal strips with more than 6 terminals, add 10c to the No. 6-136-A price for each additional terminal.



NO. 137-C TERMINAL STRIPS

Terminal .050" Brass, Tin Plated

Similar to No. 137-A, except that the tab terminal has one solder hole and one 5-40 x $\frac{1}{4}$ " screw.

Terminal screw: 8-32 x $\frac{3}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1" wide, $\frac{1}{8}$ " thick. Terminals mounted on $\frac{3}{4}$ " centers. Mounting holes $\frac{3}{4}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-137-C (2 Terminals)	\$.33	No. 5-137-C (5 Terminals)	\$.69
No. 3-137-C (3 Terminals)	.45	No. 6-137-C (6 Terminals)	.81
No. 4-137-C (4 Terminals)	.57		

For terminal strips with more than 6 terminals, add 12c to the No. 6-137-C price for each additional terminal.



NO. 136-B TERMINAL STRIPS

Terminal .050" Brass, Tin Plated

Similar to No. 136-A, except the solder terminal has two holes instead of being slotted.

Screw: 8-32 x $\frac{3}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite, $\frac{11}{16}$ " wide, $\frac{1}{8}$ " thick. Terminals mounted on $\frac{3}{4}$ " centers. Mounting holes $\frac{3}{4}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-136-B (2 Terminals)	\$.33	No. 5-136-B (5 Terminals)	\$.63
No. 3-136-B (3 Terminals)	.43	No. 6-136-B (6 Terminals)	.73
No. 4-136-B (4 Terminals)	.53		

For terminal strips with more than 6 terminals, add 10c to the No. 6-136-B price for each additional terminal.



NO. 137-D TERMINAL STRIPS

Terminal .050" Brass, Tin Plated

Similar to No. 137-C, except that the tab terminal is equipped with two 5-40 x $\frac{1}{4}$ " screws.

Terminal screw: 8-32 x $\frac{3}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1" wide, $\frac{1}{8}$ " thick. Terminals mounted on $\frac{3}{4}$ " centers. Mounting holes $\frac{3}{4}$ " from center of end terminals.

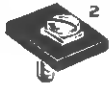
Code	Ea.	Code	Ea.
No. 2-137-D (2 Terminals)	\$.37	No. 5-137-D (5 Terminals)	\$.79
No. 3-137-D (3 Terminals)	.51	No. 6-137-D (6 Terminals)	.93
No. 4-137-D (4 Terminals)	.65		

For terminal strips with more than 6 terminals, add 14c to the No. 6-137-D price for each additional terminal.



NO. 2 TERMINAL STRIPS

Terminal .046" Brass, Tin Plated



Screw terminals above panel—solder terminals below. Solder tab has hook.
Screw: 6-32 x $\frac{1}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite, $\frac{3}{4}$ " wide, $\frac{1}{8}$ " thick. Terminals spaced on $\frac{1}{2}$ " centers. Mounting holes $\frac{1}{2}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-2 (2 Terminals)	\$.09	No. 5-2 (5 Terminals)	\$.18
No. 3-2 (3 Terminals)	.12	No. 6-2 (6 Terminals)	.21
No. 4-2 (4 Terminals)	.15		

For terminal strips with more than 6 terminals, add 3c to the No. 6-2 price for each additional terminal.

NO. 34 TERMINAL STRIPS

Terminal .062" Brass, Tin Plated



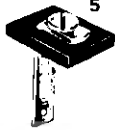
Very substantial and neat appearing terminal. Ample length solder terminal below panel with screw connection above.
Screw: 8-32 x $\frac{1}{4}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite, $\frac{7}{8}$ " wide, $\frac{1}{4}$ " thick. Terminals spaced on $\frac{1}{2}$ " centers. Mounting holes $\frac{1}{2}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-34 (2 Terminals)	\$.13	No. 5-34 (5 Terminals)	\$.25
No. 3-34 (3 Terminals)	.17	No. 6-34 (6 Terminals)	.29
No. 4-34 (4 Terminals)	.21		

For terminal strips with more than 6 terminals, add 4c to the No. 6-34 price for each additional terminal.

NO. 5 TERMINAL STRIPS

Terminal .046" Brass, Tin Plated



Screw and solder terminal with extra long solder tab for several wires.
Screw: 6-32 x $\frac{1}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite, $\frac{3}{4}$ " wide, $\frac{1}{8}$ " thick. Terminals spaced on $\frac{1}{2}$ " centers. Mounting holes $\frac{1}{2}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-5 (2 Terminals)	\$.11	No. 5-5 (5 Terminals)	\$.23
No. 3-5 (3 Terminals)	.15	No. 6-5 (6 Terminals)	.27
No. 4-5 (4 Terminals)	.19		

For terminal strips with more than 6 terminals, add 4c to the No. 6-5 price for each additional terminal.

NO. 60 TERMINAL STRIPS

Terminal .050" Brass, Tin Plated



Screw terminal above panel—solder terminal below. Solder tab is notched.
Screw: 6-32 x $\frac{1}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite, $\frac{7}{8}$ " wide, $\frac{1}{4}$ " thick. Terminals spaced on $\frac{1}{2}$ " centers. Mounting holes $\frac{1}{2}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-60 (2 Terminals)	\$.11	No. 5-60 (5 Terminals)	\$.23
No. 3-60 (3 Terminals)	.15	No. 6-60 (6 Terminals)	.27
No. 4-60 (4 Terminals)	.19		

For terminal strips with more than 6 terminals, add 4c to the No. 6-60 price for each additional terminal.

NO. 6 TERMINAL STRIPS

Terminal .046" Brass, Tin Plated



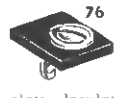
Screw and solder terminal. Substantial and reasonably priced.
Screw: 6-32 x $\frac{1}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite, $\frac{3}{4}$ " wide, $\frac{1}{8}$ " thick. Terminals spaced on $\frac{1}{2}$ " centers. Mounting holes $\frac{1}{2}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-6 (2 Terminals)	\$.09	No. 5-6 (5 Terminals)	\$.18
No. 3-6 (3 Terminals)	.12	No. 6-6 (6 Terminals)	.21
No. 4-6 (4 Terminals)	.15		

For terminal strips with more than 6 terminals, add 3c to the No. 6-6 price for each additional terminal.

NO. 76 TERMINAL STRIPS

Terminal .028" Brass, Tin Plated



Cup shaped top holds wire securely under screw. A compact and good appearing terminal.
Screw: 6-32 x $\frac{1}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite, $\frac{3}{4}$ " wide, $\frac{1}{8}$ " thick. Terminals spaced on $\frac{1}{2}$ " centers. Mounting holes $\frac{1}{2}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-76 (2 Terminals)	\$.09	No. 5-76 (5 Terminals)	\$.18
No. 3-76 (3 Terminals)	.12	No. 6-76 (6 Terminals)	.21
No. 4-76 (4 Terminals)	.15		

For terminal strips with more than 6 terminals, add 3c to the No. 6-76 price for each additional terminal.

NO. 16 TERMINAL STRIPS

Terminal .028" Brass, Tin Plated



A popular priced screw and solder terminal with many desirable features.
Screw: 6-32 x $\frac{1}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite, $\frac{3}{4}$ " wide, $\frac{1}{8}$ " thick. Terminals spaced on $\frac{1}{2}$ " centers. Mounting holes $\frac{1}{2}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-16 (2 Terminals)	\$.08	No. 5-16 (5 Terminals)	\$.17
No. 3-16 (3 Terminals)	.11	No. 6-16 (6 Terminals)	.20
No. 4-16 (4 Terminals)	.14		

For terminal strips with more than 6 terminals, add 3c to the No. 6-16 price for each additional terminal.

NO. 10 TERMINAL STRIPS

Terminal 1/16" Brass, Tin Plated



Sturdy screw and solder terminal with both screw and solder connections on top of bakelite panel. Solder terminal turned up.
Screw: 6-32 x $\frac{1}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite, $\frac{3}{4}$ " wide, $\frac{1}{8}$ " thick. Terminals spaced on $\frac{1}{2}$ " centers. Mounting holes $\frac{1}{2}$ " from center of end terminals. Will take up to No. 15 B & S gauge wire (.057").

Code	Ea.	Code	Ea.
No. 2-10 (2 Terminals)	\$.15	No. 5-10 (5 Terminals)	\$.36
No. 3-10 (3 Terminals)	.22	No. 6-10 (6 Terminals)	.43
No. 4-10 (4 Terminals)	.29		

For terminal strips with more than 6 terminals, add 7c to the No. 6-10 price for each additional terminal.

NO. 36 TERMINAL STRIPS

Terminal .031" Brass, Tin Plated



A popular priced screw and solder terminal with both screw and solder tab on same side of bakelite panel.
Screw: 6-32 x $\frac{1}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite, $\frac{3}{4}$ " wide, $\frac{1}{8}$ " thick. Terminals spaced on $\frac{1}{2}$ " centers. Mounting holes $\frac{1}{2}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-36 (2 Terminals)	\$.08	No. 5-36 (5 Terminals)	\$.17
No. 3-36 (3 Terminals)	.11	No. 6-36 (6 Terminals)	.20
No. 4-36 (4 Terminals)	.14		

For terminal strips with more than 6 terminals, add 3c to the No. 6-36 price for each additional terminal.

NO. 11 TERMINAL STRIPS

Terminal 1/16" Brass, Tin Plated



Similar to No. 10, except larger in size and the solder tab is flat, but will be bent up, if specified.
Screw: 8-32 x $\frac{3}{16}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite, $\frac{7}{8}$ " wide, $\frac{1}{8}$ " thick. Terminals mounted on $\frac{3}{4}$ " centers. Mounting holes $\frac{3}{4}$ " from center of end terminals. Will take up to No. 12 B & S gauge wire (.080").

Code	Ea.	Code	Ea.
No. 2-11 (2 Terminals)	\$.18	No. 5-11 (5 Terminals)	\$.42
No. 3-11 (3 Terminals)	.26	No. 6-11 (6 Terminals)	.50
No. 4-11 (4 Terminals)	.34		

For terminal strips with more than 6 terminals, add 8c to the No. 6-11 price for each additional terminal.

NO. 50 TERMINAL STRIPS

Terminal .062" Brass, Tin Plated



One of the most popular screw and solder terminals. Made of heavy stock with ears to firmly hold wires under screw.
Screw: 8-32 x $\frac{1}{4}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite, $\frac{7}{8}$ " wide, $\frac{1}{4}$ " thick. Terminals spaced on $\frac{1}{2}$ " centers. Mounting holes $\frac{1}{2}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-50 (2 Terminals)	\$.13	No. 5-50 (5 Terminals)	\$.25
No. 3-50 (3 Terminals)	.17	No. 6-50 (6 Terminals)	.29
No. 4-50 (4 Terminals)	.21		

For terminal strips with more than 6 terminals, add 4c to the No. 6-50 price for each additional terminal.

NO. 12 TERMINAL STRIPS

Terminal 1/16" Brass, Tin Plated



Similar to No. 11, except larger. Solder tab is flat, but will be bent up, if specified.
Screw: 10-32 x $\frac{3}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1" wide, $\frac{3}{8}$ " thick. Terminals mounted on $\frac{3}{4}$ " centers. Mounting holes $\frac{3}{4}$ " from center of end terminals. Will take up to No. 9 B & S gauge wire (.114").

Code	Ea.	Code	Ea.
No. 2-12 (2 Terminals)	\$.26	No. 5-12 (5 Terminals)	\$.62
No. 3-12 (3 Terminals)	.38	No. 6-12 (6 Terminals)	.74
No. 4-12 (4 Terminals)	.50		

For terminal strips with more than 6 terminals, add 12c to the No. 6-12 price for each additional terminal.



NO. 20 TERMINAL STRIPS

Terminal 1/16" Brass, Burnished Nickel Plate

Strong two screw terminal with ears to hold wire securely under screw.

Screws: 6-32 x 1/2" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 7/8" wide, 3/16" thick. Terminals mounted on 3/8" centers. Mounting holes 3/8" from center of end terminals. Will take up to No. 13 B & S gauge wire (.071").

Code	Ea.	Code	Ea.
No. 2-20 (2 Terminals)	\$.20	No. 5-20 (5 Terminals)	\$.50
No. 3-20 (3 Terminals)	.30	No. 6-20 (6 Terminals)	.60
No. 4-20 (4 Terminals)	.40		

For terminal strips with more than 6 terminals, add 10c to the No. 6-20 price for each additional terminal.



NO. 132 TERMINAL STRIPS

Terminals Brass, Burnished Nickel Plate

Similar to No. 131, except larger.

Screws: 8-32 x 3/8" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1 1/4" wide, 1/8" thick. Terminals mounted on 3/4" centers. Mounting holes 3/4" from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-132 (2 Terminals)	\$.17	No. 5-132 (5 Terminals)	\$.38
No. 3-132 (3 Terminals)	.24	No. 6-132 (6 Terminals)	.45
No. 4-132 (4 Terminals)	.31		

For terminal strips with more than 6 terminals, add 7c to the No. 6-132 price for each additional terminal.



NO. 21 TERMINAL STRIPS

Terminal 1/16" Brass, Burnished Nickel Plate

Similar to No. 20, except larger.

Screws: 8-32 x 3/8" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1 1/4" wide, 1/8" thick. Terminals mounted on 3/4" centers. Mounting holes 3/4" from center of end terminals. Will take up to No. 11 B & S gauge wire (.090").

Code	Ea.	Code	Ea.
No. 2-21 (2 Terminals)	\$.26	No. 5-21 (5 Terminals)	\$.62
No. 3-21 (3 Terminals)	.38	No. 6-21 (6 Terminals)	.74
No. 4-21 (4 Terminals)	.50		

For terminal strips with more than 6 terminals, add 12c to the No. 6-21 price for each additional terminal.



NO. 1 TERMINAL STRIPS

Terminal 1/4" Round Copper, Flattened at Ends, Tin Plated

A convenient and compact strip where solder connections are desired.

Insulation: XP Bakelite, 3/8" wide, 3/16" thick. Terminals mounted on 1/2" centers. Mounting holes 1/2" from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-1 (2 Terminals)	\$.06	No. 5-1 (5 Terminals)	\$.09
No. 3-1 (3 Terminals)	.07	No. 6-1 (6 Terminals)	.10
No. 4-1 (4 Terminals)	.08		

For terminal strips with more than 6 terminals, add 1c to the No. 6-1 price for each additional terminal.



NO. 22 TERMINAL STRIPS

Terminal 1/16" Brass, Burnished Nickel Plate

Similar to No. 21, except larger.

Screws: 10-32 x 3/8" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1 1/4" wide, 1/8" thick. Terminals mounted on 3/4" centers. Mounting holes 3/4" from center of end terminals. Will take up to No. 8 B & S gauge wire (.128").

Code	Ea.	Code	Ea.
No. 2-22 (2 Terminals)	\$.35	No. 5-22 (5 Terminals)	\$.80
No. 3-22 (3 Terminals)	.50	No. 6-22 (6 Terminals)	.95
No. 4-22 (4 Terminals)	.65		

For terminal strips with more than 6 terminals, add 15c to the No. 6-22 price for each additional terminal.



NO. 3 TERMINAL STRIPS

Terminal 1/8" Round Copper, Flattened at Each End, Tin Plated

Similar to No. 1, except closer spacing and furnished with holes instead of hooks.

Insulation: Canvas base Bakelite, 1/2" wide, 3/16" thick. Terminals mounted on 1/4" center. Mounting holes 1/4" from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-3 (2 Terminals)	\$.06	No. 5-3 (5 Terminals)	\$.09
No. 3-3 (3 Terminals)	.07	No. 6-3 (6 Terminals)	.10
No. 4-3 (4 Terminals)	.08		

For terminal strips with more than 6 terminals, add 1c to the No. 6-3 price for each additional terminal.



NO. 7 TERMINAL STRIPS

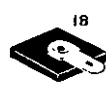
Terminal .046" Brass, Burnished Nickel Plate

A two screw insulated terminal strip that can be mounted directly on metal surface.

Screws: 6-32 x 1/2" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 7/8" wide, 1/16" thick (total). Terminals mounted on 1/2" centers. Mounting holes 1/2" from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-7 (2 Terminals)	\$.15	No. 5-7 (5 Terminals)	\$.33
No. 3-7 (3 Terminals)	.21	No. 6-7 (6 Terminals)	.39
No. 4-7 (4 Terminals)	.27		

For terminal strips with more than 6 terminals, add 6c to the No. 6-7 price for each additional terminal.



NO. 18 TERMINAL STRIPS

Terminal .024" Brass, Tin Plated

Single solder terminal. One wire may be brought up through hole and soldered. Other wire soldered to tab. Insulation: XP Bakelite, 3/8" wide, 3/16" thick. Terminals mounted on 1/4" centers. Mounting holes 1/4" from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-18 (2 Terminals)	\$.05	No. 5-18 (5 Terminals)	\$.11
No. 3-18 (3 Terminals)	.07	No. 6-18 (6 Terminals)	.13
No. 4-18 (4 Terminals)	.09		

For terminal strips with more than 6 terminals, add 2c to the No. 6-18 price for each additional terminal.



NO. 130 TERMINAL STRIPS

Terminals Brass, Burnished Nickel Plate

An inexpensive terminal strip with two screw terminals.

Screws: 5-40 x 5/8" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 7/8" wide, 1/16" thick. Terminals mounted on 1/2" centers. Mounting holes 1/2" from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-130 (2 Terminals)	\$.11	No. 5-130 (5 Terminals)	\$.26
No. 3-130 (3 Terminals)	.16	No. 6-130 (6 Terminals)	.31
No. 4-130 (4 Terminals)	.21		

For terminal strips with more than 6 terminals, add 5c to the No. 6-130 price for each additional terminal.



NO. 66-S TERMINAL STRIPS

Terminal .032" Hard Brass, Cadmium Plated

A heavy solder terminal with large oval hole for several wires.

Insulation: XP Bakelite, 3/4" wide, 1/4" thick. Terminals mounted on 3/8" centers. Mounting holes 3/8" from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-66-S (2 Terminals)	\$.06	No. 5-66-S (5 Terminals)	\$.12
No. 3-66-S (3 Terminals)	.08	No. 6-66-S (6 Terminals)	.14
No. 4-66-S (4 Terminals)	.10		

For terminal strips with more than 6 terminals, add 2c to the No. 6-66-S price for each additional terminal.



NO. 131 TERMINAL STRIPS

Terminals Brass, Burnished Nickel Plate

Similar to No. 130, except larger.

Screws: 6-32 x 1/4" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1" wide, 3/16" thick. Terminals mounted on 3/8" centers. Mounting holes 3/8" from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-131 (2 Terminals)	\$.14	No. 5-131 (5 Terminals)	\$.32
No. 3-131 (3 Terminals)	.20	No. 6-131 (6 Terminals)	.38
No. 4-131 (4 Terminals)	.26		

For terminal strips with more than 6 terminals, add 6c to the No. 6-131 price for each additional terminal.



NO. 66-D TERMINAL STRIPS

Terminal .032" Hard Brass, Cadmium Plated

Two No. 66 terminals mounted on opposite sides of panel and riveted together by solid rivet. Ideal strip for heavy work.

Insulation: XP Bakelite, 3/4" wide, 3/16" thick. Terminals mounted on 3/8" centers. Mounting holes 3/8" from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-66-D (2 Terminals)	\$.07	No. 5-66-D (5 Terminals)	\$.16
No. 3-66-D (3 Terminals)	.10	No. 6-66-D (6 Terminals)	.19
No. 4-66-D (4 Terminals)	.13		

For terminal strips with more than 6 terminals, add 3c to the No. 6-66-D price for each additional terminal.



NO. 37 TERMINAL STRIPS

Terminal .020" Brass, Tin Plated

A one piece two wire solder junction. Inexpensive and reliable.
Insulation: XP Bakelite, $\frac{3}{8}$ " wide, $\frac{1}{16}$ " thick. Terminals mounted on $\frac{1}{8}$ " centers. Mounting holes $\frac{1}{16}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-37 (2 Terminals)	\$.05	No. 5-37 (5 Terminals)	\$.11
No. 3-37 (3 Terminals)	.07	No. 6-37 (6 Terminals)	.13
No. 4-37 (4 Terminals)	.09		

For terminal strips with more than 6 terminals, add 2c to the No. 6-37 price for each additional terminal.



NO. 59 TERMINAL STRIPS

Terminal .028" Brass, Tin Plated

A... inexpensive solder terminal. One wire may be brought up through hole and soldered, leaving vertical tab for other connection.
Insulation: XP Bakelite, $\frac{3}{8}$ " wide, $\frac{1}{16}$ " thick. Terminals mounted on $\frac{1}{8}$ " centers. Mounting holes $\frac{1}{16}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-59 (2 Terminals)	\$.05	No. 5-59 (5 Terminals)	\$.11
No. 3-59 (3 Terminals)	.07	No. 6-59 (6 Terminals)	.13
No. 4-59 (4 Terminals)	.09		

For terminal strips with more than 6 terminals, add 2c to the No. 6-59 price for each additional terminal.



NO. 48 TERMINAL STRIPS

Terminal .028" Brass, Tin Plated

A low priced double solder terminal.
Insulation: XP Bakelite, $\frac{1}{2}$ " wide, $\frac{1}{16}$ " thick. Terminals mounted on $\frac{1}{8}$ " centers. Mounting holes $\frac{1}{16}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-48 (2 Terminals)	\$.05	No. 5-48 (5 Terminals)	\$.11
No. 3-48 (3 Terminals)	.07	No. 6-48 (6 Terminals)	.13
No. 4-48 (4 Terminals)	.09		

For terminal strips with more than 6 terminals, add 2c to the No. 6-48 price for each additional terminal.



NO. 96 TERMINAL STRIPS

Terminal, Spring Temper Brass, Tin Plated

Perhaps the most popular socket terminal ever sold. Takes standard tube prongs (No. 99 or No. 100). Furnished for No. 99 prongs ($\frac{1}{8}$ ") unless otherwise specified.
Insulation: XP Bakelite, $\frac{5}{8}$ " wide, $\frac{1}{16}$ " thick. Terminals mounted on $\frac{1}{8}$ " centers. Mounting holes $\frac{1}{16}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-96 (2 Terminals)	\$.06	No. 5-96 (5 Terminals)	\$.12
No. 3-96 (3 Terminals)	.08	No. 6-96 (6 Terminals)	.14
No. 4-96 (4 Terminals)	.10		

For terminal strips with more than 6 terminals, add 2c to the No. 6-96 price for each additional terminal.



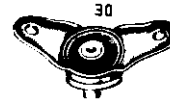
NO. 49 TERMINAL STRIPS

Terminal .028" Hard Brass, Hot Tinned

A... two way solder terminal. Lock washer type, securely fastened to bakelite panel to prevent turning.
Insulation: XP Bakelite, $\frac{1}{2}$ " wide, $\frac{1}{16}$ " thick. Terminals mounted on $\frac{1}{2}$ " centers. Mounting holes $\frac{1}{2}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-49 (2 Terminals)	\$.07	No. 5-49 (5 Terminals)	\$.13
No. 3-49 (3 Terminals)	.09	No. 6-49 (6 Terminals)	.15
No. 4-49 (4 Terminals)	.11		

For terminal strips of more than 6 terminals, add 2c to the No. 6-49 price for each additional terminal.



NO. 30 ANCHOR TERMINAL

Terminal .023" Brass, Tin Plated

A very convenient individual terminal which may be eyeleted directly to metal panel and is insulated from it. Eyelet furnished. Specify panel thickness.
Insulation: Bakelite.

No. 30 Individual terminal... Ea. \$.02



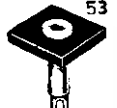
NO. 52 TERMINAL STRIPS

Terminal .025" Brass, Tin Plated

An inexpensive two way solder terminal. Solder tabs lie flat.
Insulation: XP Bakelite, $\frac{3}{8}$ " wide, $\frac{1}{16}$ " thick. Terminals mounted on $\frac{1}{8}$ " centers. Mounting holes $\frac{1}{16}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-52 (2 Terminals)	\$.05	No. 5-52 (5 Terminals)	\$.11
No. 3-52 (3 Terminals)	.07	No. 6-52 (6 Terminals)	.13
No. 4-52 (4 Terminals)	.09		

For terminal strips with more than 6 terminals, add 2c to the No. 6-52 price for each additional terminal.



NO. 53 TERMINAL STRIPS

Terminal, Spring Temper Brass, Tin Plated

A reliable socket type contact for many uses. Takes $\frac{1}{8}$ " prongs. May be used with No. 98 terminal strips (same terminal spacing), or with No. 40 pin tips.
Insulation: XP Bakelite, $\frac{3}{8}$ " wide, $\frac{1}{16}$ " thick. Terminals mounted on $\frac{3}{8}$ " centers. Mounting holes $\frac{3}{8}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-53 (2 Terminals)	\$.12	No. 5-53 (5 Terminals)	\$.18
No. 3-53 (3 Terminals)	.14	No. 6-53 (6 Terminals)	.20
No. 4-53 (4 Terminals)	.16		

For terminal strips with more than 6 terminals, add 2c to the No. 6-53 price for each additional terminal.



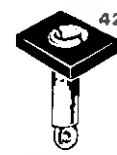
NO. 4 TERMINAL STRIPS

Terminal 1/16" Hard Brass, Tin Plated

Strong spade terminal. Convenient for wire harness.
Insulation: XP Bakelite, $\frac{3}{4}$ " wide, $\frac{1}{16}$ " thick. Terminals mounted on $\frac{1}{2}$ " centers. Use in connection with No. 6 screw terminal.

Code	Ea.	Code	Ea.
No. 2-4 (2 Terminals)	\$.09	No. 5-4 (5 Terminals)	\$.18
No. 3-4 (3 Terminals)	.12	No. 6-4 (6 Terminals)	.21
No. 4-4 (4 Terminals)	.15		

For terminal strips with more than 6 terminals, add 3c to the No. 6-4 price for each additional terminal.



NO. 42 TERMINAL STRIPS

Terminal, Hard Brass, Nickel Plated

Similar in construction to No. 53. Takes $\frac{1}{8}$ " prong. May be used with No. 99 terminal strips (same terminal spacing). Individual prongs, such as No. TBP-1-RH may be used with No. 42 strips.
Insulation: XP Bakelite, $\frac{1}{2}$ " wide, $\frac{1}{16}$ " thick. Terminals mounted on $\frac{1}{2}$ " centers. Mounting holes $\frac{1}{2}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-42 (2 Terminals)	\$.14	No. 5-42 (5 Terminals)	\$.23
No. 3-42 (3 Terminals)	.17	No. 6-42 (6 Terminals)	.26
No. 4-42 (4 Terminals)	.20		

For terminal strips with more than 6 terminals, add 3c to the No. 6-42 price for each additional terminal.



NO. 54 TERMINAL STRIPS

Terminal .032" Brass, Tin Plated

Spade terminal for cable harness. Convenient to use in connection with No. 2 or No. 6 terminal strips.
Insulation: XP Bakelite, $\frac{1}{2}$ " wide, $\frac{1}{16}$ " thick. Terminals mounted on $\frac{1}{2}$ " centers.

Code	Ea.	Code	Ea.
No. 2-54 (2 Terminals)	\$.04	No. 5-54 (5 Terminals)	\$.10
No. 3-54 (3 Terminals)	.06	No. 6-54 (6 Terminals)	.12
No. 4-54 (4 Terminals)	.08		

For terminal strips with more than 6 terminals, add 2c to the No. 6-54 price for each additional terminal.



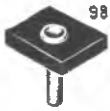
NO. 43 TERMINAL STRIPS

Terminal, Hard Brass, Nickel Plated

Same as No. 42, except that it takes $\frac{1}{8}$ " prongs. May be used with No. 100 terminal strips.
Insulation: XP Bakelite, $\frac{3}{8}$ " wide, $\frac{1}{16}$ " thick. Terminals mounted on $\frac{3}{8}$ " centers. Mounting holes $\frac{3}{8}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-43 (2 Terminals)	\$.16	No. 5-43 (5 Terminals)	\$.28
No. 3-43 (3 Terminals)	.20	No. 6-43 (6 Terminals)	.32
No. 4-43 (4 Terminals)	.24		

For terminal strips with more than 6 terminals, add 4c to the No. 6-43 price for each additional terminal.



NO. 98 TERMINAL STRIPS

Terminal 3/32" Round, Brass, Nickel Plated

Standard tube base prong of 3/8" diameter. Can be used with No. 53 terminal strips. Insulation: XP Bakelite, 3/8" wide, 1/4" thick. Terminals mounted on 3/8" centers. Mounting holes 3/8" from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-98 (2 Terminals)	\$.05	No. 5-98 (5 Terminals)	\$.11
No. 3-98 (3 Terminals)	.07	No. 6-98 (6 Terminals)	.13
No. 4-98 (4 Terminals)	.09		

For terminal strips with more than 6 terminals, add 2c to the No. 6-98 price for each additional terminal.



NO. 99 TERMINAL STRIPS

Terminal 1/4" Round, Brass, Nickel Plated

Similar to No. 98, except that it is 1/8" in diameter. Can be used with No. 42 terminal strips, and also with No. 96 terminal strips. Insulation: XP Bakelite, 1/2" wide, 3/4" thick. Terminals mounted on 1/2" centers. Mounting holes 1/2" from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-99 (2 Terminals)	\$.07	No. 5-99 (5 Terminals)	\$.16
No. 3-99 (3 Terminals)	.10	No. 6-99 (6 Terminals)	.19
No. 4-99 (4 Terminals)	.13		

For terminal strips with more than 6 terminals, add 3c to the No. 6-99 Price for each additional terminal.



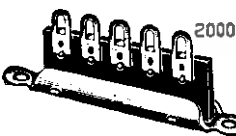
NO. 100 TERMINAL STRIPS

Terminal 5/32" Round, Brass, Nickel Plated

Similar to No. 99, except 5/16" in diameter. Can be used with No. 43 terminal strip, and No. 95 terminal strip. Insulation: XP Bakelite, 5/8" wide, 3/4" thick. Terminals mounted on 5/8" centers. Mounting holes 5/8" from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-100 (2 Terminals)	\$.10	No. 5-100 (5 Terminals)	\$.22
No. 3-100 (3 Terminals)	.14	No. 6-100 (6 Terminals)	.26
No. 4-100 (4 Terminals)	.18		

For terminal strips with more than 6 terminals, add 4c to the No. 6-100 price for each additional terminal.



NO. 2000 TERMINAL STRIPS

Terminals .019" Brass, Tin Plated

Compact and sturdy junction terminal strip. Useful in assembling radio chassis, wiring, etc. Insulation: Bakelite. Brackets: Steel, cadmium plated. Terminals spaced on 1/2" centers.

Mounting Hole Centers:

Code	Terminals	Mounting Hole Centers	Ea.
No. 2002	(2 Terminals)	1"	\$.04
No. 2003	(3 Terminals)	1-5/16"	.04
No. 2004	(4 Terminals)	1-5/8"	.05
No. 2005	(5 Terminals)	1-15/16"	.05
No. 2006	(6 Terminals)	2-1/4"	.06
No. 2007	(7 Terminals)	2-9/16"	.06
No. 2008	(8 Terminals)	2-7/8"	.07
No. 2009	(9 Terminals)	3-3/16"	.07
No. 2010	(10 Terminals)	3-1/2"	.08
No. 2011	(11 Terminals)	3-13/16"	.08
No. 2012	(12 Terminals)	4-1/8"	.09
No. 2013	(13 Terminals)	4-7/16"	.09



TBS-1-RH (SOCKET)

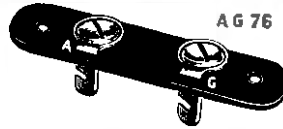
A useful socket terminal for single conductor leads. Handle is turned hard rubber. Cap is threaded to body. Spring socket contact. (Use with TBP-1-RH.)

No. TBS-1-RH Ea. \$.23

TBP-1-RH (PLUG)

Plug for single conductor leads. Handle is hard rubber. Use with TBS-1-RH, or may be used with No. 42 terminal strips.

No. TBP-1-RH Ea. \$.14



AG 76

AG-76

Standard Antenna-Ground strip using No. 76 terminals. Insulation, 1/2" Bakelite, 1/2" wide. Mounting centers 1 1/4". Ends rounded. Letters A and G are filled in white.

No. AG-76 Ea. \$.08

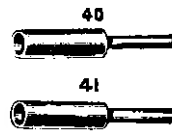


PHONO-1 TERMINAL STRIP

Socket type terminal strip for phonograph connection to radio set. The terminals are No. 53 type and take standard phone cord tips (No. 40). Insulation: 1/2" Bakelite, 1/2" wide. Mounting

centers 1 1/4". Ends rounded.

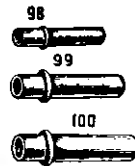
No. PHONO-1 Ea. \$.07



NO. 40 AND NO. 41 CORD TIPS

No. 40 is standard phone cord tip. Tip diameter .080" to .082". No. 41 is oversize phone cord tip. Tip diameter .098" to .10".

Either size Per 100 \$2.40



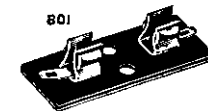
NO. 98, NO. 99 AND NO. 100 PRONGS

Standard tube base prongs. Brass, burnished nickel plate.

No. 98 prongs—3/8" diameter.
No. 99 prongs—1/4" diameter.
No. 100 prongs—5/16" diameter.

Any above sizes

Per 100 \$.60



No. 801 Fuse Mount

NO. 801 FUSE MOUNTS

Mount for single 3-AG fuse. No. 801 is provided with solder tabs on the same side of panel as the fuse clips, as shown. An insulating strip of fibre the same size as the bakelite strip is provided. Panels for 2 or more fuses can be supplied. Ask for bulletin G-1.

Ea. \$.10

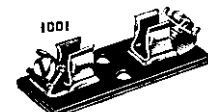


No. 901 Fuse Mount

NO. 901 FUSE MOUNTS

Mount for single 3-AG fuse. No. 901 is provided with solder tab on the opposite side of panel to the fuse clips, as shown. Panels for 2 or more fuses can be supplied. Ask for bulletin G-1.

Ea. \$.09



No. 1001 Fuse Mount

NO. 1001 FUSE MOUNTS

Mount for single 3-AG fuse. No. 1001 is provided with screw terminals on the same side of panel as the fuse clips. An insulating strip of fibre the same size as the bakelite strip is provided. Panels for 2 or more fuses can be supplied. Ask for bulletin G-1.

Ea. \$.15



NO. 51 FUSE CLIPS

Standard clips only, for No. 3-AG Fuses.

Per 100 \$1.50



NO. 45 ANGLE BRACKET

An all-purpose angle, made of .062" steel, cadmium plated, 1/2" wide. Holes 3/8" located 1/4" from outside right angle surfaces.

No. 45 Angle Brackets.....Per 100 \$2.50



"300" SERIES PLUGS AND SOCKETS

General Specifications

2 Contacts to 33 Contacts.
 All plugs and sockets are polarized.
 Plugs of one size cannot fit into sockets of another size.
 Phosphor bronze "knife-switch" type socket contacts engage both sides of flat plug contacts—double contact area.
 Molded Bakelite insulation.
 Formed metal caps.
 Formed fibre linings in caps.
 Small size, with good separation between contacts.
 Plug or socket for panel mounting.
 Plug or socket with cap.
 Simple, fool-proof assembly.
 Finish on caps—Black Crystal, except on large quantities—special discounts.
 Plug prongs— $\frac{1}{16}$ " wide by $\frac{1}{16}$ " thick.
 See Page N-20 for mounting specifications.

Plug with Angle Brackets

No. Contacts	Ea.
P-302-AB (2)	\$.14
P-303-AB (3)	.17
P-304-AB (4)	.19
P-306-AB (6)	.24
P-308-AB (8)	.28
P-310-AB (10)	.34
P-312-AB (12)	.38

Socket with Angle Brackets

No. Contacts	Ea.
S-302-AB (2)	\$.15
S-303-AB (3)	.18
S-304-AB (4)	.21
S-306-AB (6)	.28
S-308-AB (8)	.33
S-310-AB (10)	.40
S-312-AB (12)	.46

Plug with Flush Plate

No. Contacts	Ea.
P-302-FP (2)	\$.24
P-303-FP (3)	.27
P-304-FP (4)	.29
P-306-FP (6)	.34
P-308-FP (8)	.38
P-310-FP (10)	.44
P-312-FP (12)	.48

Socket with Flush Plate

No. Contacts	Ea.
S-302-FP (2)	\$.25
S-303-FP (3)	.28
S-304-FP (4)	.31
S-306-FP (6)	.38
S-308-FP (8)	.43
S-310-FP (10)	.50
S-312-FP (12)	.56

Plug with Recessed Plate

No. Contacts	Ea.
P-302-RP (2)	\$.29
P-303-RP (3)	.32
P-304-RP (4)	.34
P-306-RP (6)	.39
P-308-RP (8)	.48
P-310-RP (10)	.54
P-312-RP (12)	.58

Socket with Recessed Plate

No. Contacts	Ea.
S-302-RP (2)	\$.30
S-303-RP (3)	.33
S-304-RP (4)	.36
S-306-RP (6)	.43
S-308-RP (8)	.53
S-310-RP (10)	.60
S-312-RP (12)	.66

Plug, Flared Hole in Cap

No. Contacts	Ea.
P-302-FHT (2)	\$.24
P-303-FHT (3)	.25
P-304-FHT (4)	.28
P-306-FHT (6)	.34
P-308-FHT (8)	.39
P-310-FHT (10)	.46
P-312-FHT (12)	.51

Socket, Flared Hole in Cap

No. Contacts	Ea.
S-302-FHT (2)	\$.24
S-303-FHT (3)	.26
S-304-FHT (4)	.30
S-306-FHT (6)	.38
S-308-FHT (8)	.44
S-310-FHT (10)	.52
S-312-FHT (12)	.59

Plug, Flared Hole in Cap and with Latches

No. Contacts	Ea.
P-302-FHT-L (2)	\$.34
P-303-FHT-L (3)	.35
P-304-FHT-L (4)	.38
P-306-FHT-L (6)	.44
P-308-FHT-L (8)	.49
P-310-FHT-L (10)	.56
P-312-FHT-L (12)	.61

Socket, Flared Hole in Cap and with Keepers

No. Contacts	Ea.
S-302-FHT-K (2)	\$.34
S-303-FHT-K (3)	.36
S-304-FHT-K (4)	.40
S-306-FHT-K (6)	.48
S-308-FHT-K (8)	.54
S-310-FHT-K (10)	.62
S-312-FHT-K (12)	.69

Plug, Cable Clamp in Cap

No. Contacts	Ea.
P-302-CCT (2)	\$.34
P-303-CCT (3)	.35
P-304-CCT (4)	.38
P-306-CCT (6)	.44
P-308-CCT (8)	.49
P-310-CCT (10)	.56
P-312-CCT (12)	.61

Socket, Cable Clamp in Cap

No. Contacts	Ea.
S-302-CCT (2)	\$.34
S-303-CCT (3)	.36
S-304-CCT (4)	.40
S-306-CCT (6)	.48
S-308-CCT (8)	.54
S-310-CCT (10)	.62
S-312-CCT (12)	.69

Plug, Cable Clamp in Cap and with Latches

No. Contacts	Ea.
P-302-CCT-L (2)	\$.44
P-303-CCT-L (3)	.45
P-304-CCT-L (4)	.48
P-306-CCT-L (6)	.54
P-308-CCT-L (8)	.59
P-310-CCT-L (10)	.66
P-312-CCT-L (12)	.71

Socket, Cable Clamp in Cap and with Keepers

No. Contacts	Ea.
S-302-CCT-K (2)	\$.44
S-303-CCT-K (3)	.46
S-304-CCT-K (4)	.50
S-306-CCT-K (6)	.58
S-308-CCT-K (8)	.64
S-310-CCT-K (10)	.72
S-312-CCT-K (12)	.79

Plug with Angle Brackets

No. Contacts	Ea.
P-315-AB (15)	\$.55
P-318-AB (18)	.70
P-321-AB (21)	.90
P-324-AB (24)	1.10
P-327-AB (27)	1.30
P-330-AB (30)	1.50
P-333-AB (33)	1.70

Socket with Angle Brackets

No. Contacts	Ea.
S-315-AB (15)	\$.65
S-318-AB (18)	.80
S-321-AB (21)	1.00
S-324-AB (24)	1.20
S-327-AB (27)	1.40
S-330-AB (30)	1.60
S-333-AB (33)	1.80

Plug with Recessed Brackets

No. Contacts	Ea.
P-315-RB (15)	\$.75
P-318-RB (18)	.90
P-321-RB (21)	1.10
P-324-RB (24)	1.30
P-327-RB (27)	1.50
P-330-RB (30)	1.70
P-333-RB (33)	1.90

Socket with Recessed Brackets

No. Contacts	Ea.
S-315-RB (15)	\$.85
S-318-RB (18)	1.00
S-321-RB (21)	1.20
S-324-RB (24)	1.40
S-327-RB (27)	1.60
S-330-RB (30)	1.80
S-333-RB (33)	2.00

Plug with Flared Hole in Top of Cap

No. Contacts	Ea.
P-315-FHT (15)	\$.75
P-318-FHT (18)	.90
P-321-FHT (21)	1.10
P-324-FHT (24)	1.30
P-327-FHT (27)	1.50
P-330-FHT (30)	1.70
P-333-FHT (33)	1.90

Socket, Flared Hole in Top of Cap

No. Contacts	Ea.
S-315-FHT (15)	\$.85
S-318-FHT (18)	1.00
S-321-FHT (21)	1.20
S-324-FHT (24)	1.40
S-327-FHT (27)	1.60
S-330-FHT (30)	1.80
S-333-FHT (33)	2.00

Plug, Flared Hole in Top of Cap and with Latches

No. Contacts	Ea.
P-315-FHT-L (15)	\$.85
P-318-FHT-L (18)	1.00
P-321-FHT-L (21)	1.20
P-324-FHT-L (24)	1.40
P-327-FHT-L (27)	1.60
P-330-FHT-L (30)	1.80
P-333-FHT-L (33)	2.00

Socket, Flared Hole in Top of Cap and with Keepers

No. Contacts	Ea.
S-315-FHT-K (15)	\$.95
S-318-FHT-K (18)	1.10
S-321-FHT-K (21)	1.30
S-324-FHT-K (24)	1.50
S-327-FHT-K (27)	1.70
S-330-FHT-K (30)	1.90
S-333-FHT-K (33)	2.10

Plug, Cable Clamp in Top of Cap

No. Contacts	Ea.
P-315-CCT (15)	\$.89
P-318-CCT (18)	1.04
P-321-CCT (21)	1.24
P-324-CCT (24)	1.44
P-327-CCT (27)	1.64
P-330-CCT (30)	1.84
P-333-CCT (33)	2.04

Socket, Cable Clamp in Top of Cap

No. Contacts	Ea.
S-315-CCT (15)	\$.99
S-318-CCT (18)	1.14
S-321-CCT (21)	1.34
S-324-CCT (24)	1.54
S-327-CCT (27)	1.74
S-330-CCT (30)	1.94
S-333-CCT (33)	2.14

Plug, Cable Clamp in Top of Cap and with Latches

No. Contacts	Ea.
P-315-CCT-L (15)	\$.99
P-318-CCT-L (18)	1.14
P-321-CCT-L (21)	1.34
P-324-CCT-L (24)	1.54
P-327-CCT-L (27)	1.74
P-330-CCT-L (30)	1.94
P-333-CCT-L (33)	2.14

Socket, Cable Clamp in Top of Cap and with Keepers

No. Contacts	Ea.
S-315-CCT-K (15)	\$ 1.09
S-318-CCT-K (18)	1.24
S-321-CCT-K (21)	1.44
S-324-CCT-K (24)	1.64
S-327-CCT-K (27)	1.84
S-330-CCT-K (30)	2.04
S-333-CCT-K (33)	2.24

Plug Mounted on Brass Wall Plate

No. Contacts	Ea.
P-315-RP (15)	\$ 1.50
P-318-RP (18)	1.65
P-321-RP (21)	1.85
P-324-RP (24)	2.05
P-327-RP, P-330-RP and P-333-RP—Not made; too large for standard wall plate.	

Socket Mounted on Brass Wall Plate

No. Contacts	Ea.
S-315-WP (15)	\$ 1.40
S-318-WP (18)	1.55
S-321-WP (21)	1.75
S-324-WP (24)	1.95
P-327-WP, P-330-WP and P-333-WP—Not made; too large for standard wall plate.	



400 SERIES PLUGS AND SOCKETS (Formerly "Heavy Duty")

General Specifications

2, 4, 6, 8, 10 and 12 Contacts.
All plugs and sockets are polarized.
Phosphor bronze "knife switch" type socket contacts engage both sides of flat plug contacts—double contact area.
Molded Bakelite insulation.
Fibre linings in caps.
Plug or socket for panel mounting.
Plug or socket with caps.
Finish on caps—Black Crystal.
Plug prong cross section $\frac{1}{4}'' \times \frac{1}{8}''$.
Locking fittings available for panel types or extension cables.
See Page N-19 for mounting specifications.



P-404-SFT

PLUGS

Plug—Steel Flex Clamp in Top			Plug—Steel Flex Clamp in End		
No.	Contacts	Ea.	No.	Contacts	Ea.
P-402-SFT	(2)	\$.67	P-402-SFE	(2)	\$.67
P-404-SFT	(4)	.81	P-404-SFE	(4)	.81
P-406-SFT	(6)	.95	P-406-SFE	(6)	.95
P-408-SFT	(8)	1.09	P-408-SFE	(8)	1.09
P-410-SFT	(10)	1.23	P-410-SFE	(10)	1.23
P-412-SFT	(12)	1.37	P-412-SFE	(12)	1.37

SOCKETS

Socket—Steel Flex Clamp in Top			Socket—Steel Flex Clamp in End		
No.	Contacts	Ea.	No.	Contacts	Ea.
S-402-SFT	(2)	\$.73	S-402-SFE	(2)	\$.73
S-404-SFT	(4)	.90	S-404-SFE	(4)	.90
S-406-SFT	(6)	1.07	S-406-SFE	(6)	1.07
S-408-SFT	(8)	1.25	S-408-SFE	(8)	1.25
S-410-SFT	(10)	1.41	S-410-SFE	(10)	1.41
S-412-SFT	(12)	1.58	S-412-SFE	(12)	1.58

PLUGS

Plug—Flared Hole in Top			Plug—Flared Hole in End		
No.	Contacts	Ea.	No.	Contacts	Ea.
P-402-FHT	(2)	\$.47	P-402-FHE	(2)	\$.47
P-404-FHT	(4)	.61	P-404-FHE	(4)	.61
P-406-FHT	(6)	.75	P-406-FHE	(6)	.75
P-408-FHT	(8)	.89	P-408-FHE	(8)	.89
P-410-FHT	(10)	1.03	P-410-FHE	(10)	1.03
P-412-FHT	(12)	1.17	P-412-FHE	(12)	1.17

SOCKETS

Socket—Flared Hole in Top			Socket—Flared Hole in End		
No.	Contacts	Ea.	No.	Contacts	Ea.
S-402-FHT	(2)	\$.53	S-402-FHE	(2)	\$.53
S-404-FHT	(4)	.70	S-404-FHE	(4)	.70
S-406-FHT	(6)	.87	S-406-FHE	(6)	.87
S-408-FHT	(8)	1.04	S-408-FHE	(8)	1.04
S-410-FHT	(10)	1.21	S-410-FHE	(10)	1.21
S-412-FHT	(12)	1.38	S-412-FHE	(12)	1.38



P-404-FHT

Plug—Less Angle Brackets not Drilled or Tapped Unless Specified

No.	Contacts	Ea.
P-402-LAB	(2)	\$.27
P-404-LAB	(4)	.34
P-406-LAB	(6)	.41
P-408-LAB	(8)	.48
P-410-LAB	(10)	.55
P-412-LAB	(12)	.62



P-404-LAB

Socket—Less Angle Brackets Not Drilled or Tapped Unless Specified

No.	Contacts	Ea.
S-402-LAB	(2)	\$.33
S-404-LAB	(4)	.43
S-406-LAB	(6)	.53
S-408-LAB	(8)	.63
S-410-LAB	(10)	.73
S-412-LAB	(12)	.83



S-404-LAB

Plug—with Angle Brackets for 1/16" Panel

No.	Contacts	Ea.
P-402-AB	$\frac{1}{16}''$ (2)	\$.44
P-404-AB	$\frac{1}{16}''$ (4)	.51
P-406-AB	$\frac{1}{16}''$ (6)	.58
P-408-AB	$\frac{1}{16}''$ (8)	.65
P-410-AB	$\frac{1}{16}''$ (10)	.72
P-412-AB	$\frac{1}{16}''$ (12)	.78



P-404-AB

Socket—with Angle Brackets

No.	Contacts	Ea.
S-402-AB	(2)	\$.50
S-404-AB	(4)	.60
S-406-AB	(6)	.70
S-408-AB	(8)	.80
S-410-AB	(10)	.90
S-412-AB	(12)	1.00



S-404-AB

PLUGS

Plug—Rubber Sleeve in Top			Plug—Rubber Sleeve in End		
No.	Contacts	Ea.	No.	Contacts	Ea.
P-402-RST	(2)	\$.64	P-402-RSE	(2)	\$.64
P-404-RST	(4)	.78	P-404-RSE	(4)	.78
P-406-RST	(6)	.92	P-406-RSE	(6)	.92
P-408-RST	(8)	1.06	P-408-RSE	(8)	1.06
P-410-RST	(10)	1.20	P-410-RSE	(10)	1.20
P-412-RST	(12)	1.34	P-412-RSE	(12)	1.34

SOCKETS

Socket—Rubber Sleeve in Top			Socket—Rubber Sleeve in End		
No.	Contacts	Ea.	No.	Contacts	Ea.
S-402-RST	(2)	\$.70	S-402-RSE	(2)	\$.70
S-404-RST	(4)	.87	S-404-RSE	(4)	.87
S-406-RST	(6)	1.04	S-406-RSE	(6)	1.04
S-408-RST	(8)	1.21	S-408-RSE	(8)	1.21
S-410-RST	(10)	1.38	S-410-RSE	(10)	1.38
S-412-RST	(12)	1.55	S-412-RSE	(12)	1.55



P-404-RST



P-404-AB $\frac{3}{8}''$

Plug—with Angle Brackets— $\frac{3}{8}''$ Drop

No.	Contacts	Ea.
P-402-AB	$\frac{3}{8}''$ (2)	\$.50
P-404-AB	$\frac{3}{8}''$ (4)	.57
P-406-AB	$\frac{3}{8}''$ (6)	.64
P-408-AB	$\frac{3}{8}''$ (8)	.71
P-410-AB	$\frac{3}{8}''$ (10)	.78
P-412-AB	$\frac{3}{8}''$ (12)	.85

Plug—with Angle Brackets— $\frac{3}{4}''$ Drop

No.	Contacts	Ea.
P-402-AB	$\frac{3}{4}''$ (2)	\$.61
P-404-AB	$\frac{3}{4}''$ (4)	.68
P-406-AB	$\frac{3}{4}''$ (6)	.75
P-408-AB	$\frac{3}{4}''$ (8)	.82
P-410-AB	$\frac{3}{4}''$ (10)	.89
P-412-AB	$\frac{3}{4}''$ (12)	.96



P-404-AB $\frac{3}{4}''$

PLUGS

Plug—Cable Clamp in Top			Plug—Cable Clamp in End		
No.	Contacts	Ea.	No.	Contacts	Ea.
P-402-CCT	(2)	\$.61	P-402-CCE	(2)	\$.61
P-404-CCT	(4)	.75	P-404-CCE	(4)	.75
P-406-CCT	(6)	.89	P-406-CCE	(6)	.89
P-408-CCT	(8)	1.03	P-408-CCE	(8)	1.03
P-410-CCT	(10)	1.17	P-410-CCE	(10)	1.17
P-412-CCT	(12)	1.31	P-412-CCE	(12)	1.31

SOCKETS

Socket—Cable Clamp in Top			Socket—Cable Clamp in End		
No.	Contacts	Ea.	No.	Contacts	Ea.
S-402-CCT	(2)	\$.67	S-402-CCE	(2)	\$.67
S-404-CCT	(4)	.84	S-404-CCE	(4)	.84
S-406-CCT	(6)	1.01	S-406-CCE	(6)	1.01
S-408-CCT	(8)	1.18	S-408-CCE	(8)	1.18
S-410-CCT	(10)	1.35	S-410-CCE	(10)	1.35
S-412-CCT	(12)	1.52	S-412-CCE	(12)	1.52



P-404-CCT



P-404-CB

Plug—with Cast Brackets

No.	Contacts	Ea.
P-402-CB	(2)	\$.92
P-404-CB	(4)	1.04
P-406-CB	(6)	1.16
P-408-CB	(8)	1.28
P-410-CB	(10)	1.40
P-412-CB	(12)	1.52

Socket—Mounted on Brass Wall Plate

No.	Contacts	Ea.
S-402-WP	(2)	\$1.42
S-404-WP	(4)	1.52
S-406-WP	(6)	1.62
S-408-WP	(8)	1.72
S-410-WP	(10)	1.82
S-412-WP	(12)	1.92



S-404-WP



SERIES 101, 201 AND 202 PLUGS AND SOCKETS



Completely shielded plugs and sockets. In general, the 101 series are all similar. Ceramic insulation is used on plug member and XX bakelite on socket member. Metal parts are of brass, heavily tin plated. Made on screw machine, with the exception of the cable ferrules. Cable ferrules are supplied as shown, for 1/4", 3/8" and 1/2" cables. Ferrules are drawn brass. All 101 plugs and sockets are single contacts. Threaded nut holds plug in socket.

Type 101 mounting holes No. 41 drill on 1 1/8" centers.

Type 101-D mounting holes No. 30 drill on 1 1/8" centers.

The 201 plugs and sockets are similar to the 101, but larger all around. Ferrule is supplied for 3/8" cable only. Mounting hole No. 30 drill on 1" centers.

No. 202 plugs and sockets are made in two contacts. Correspond generally in construction to series 101 and 201, except insulation is molded bakelite. Mounting holes No. 30 drill on 1" centers.



P.S.101-1/4"

P-101—1/4" Plug only	Ea. \$.38
S-101—1/4" Socket only	Ea. .38
PS-101—1/4" Plug and Socket	Ea. .75



PS 101-3/8"

P-101—3/8" Plug only	Ea. \$.48
S-101—3/8" Socket only	Ea. .38
PS-101—3/8" Plug and Socket	Ea. .85



PS 101-1/2"

P-101—1/2" Plug only	Ea. \$.53
S-101—1/2" Socket only	Ea. .38
PS-101—1/2" Plug and Socket	Ea. .90



PS101D-1/4"

P-101-D—1/4" Plug only	Ea. \$.38
S-101-D—1/4" Socket only	Ea. .52
PS-101-D—1/4" Plug and Socket	Ea. .90



PS101D-3/8"

P-101-D—3/8" Plug only	Ea. \$.48
S-101-D—3/8" Socket only	Ea. .52
PS-101-D—3/8" Plug and Socket	Ea. 1.00



PS 101 D 1/2"

P-101-D—1/2" Plug only	Ea. \$.53
S-101-D—1/2" Socket only	Ea. .52
PS-101-D—1/2" Plug and Socket	Ea. 1.05



P.S.201-D-3/8"

P-201-D—3/8" Plug only	Ea. \$.57
S-201-D—3/8" Socket only	Ea. .63
PS-201-D—3/8" Plug and Socket	Ea. 1.20



PS 202-FHT

P-202-FHT Plug only	Ea. \$.40
S-202-B Socket only	Ea. .60
PS-202-FHT Plug and Socket	Ea. 1.00



P.S.202 CCT

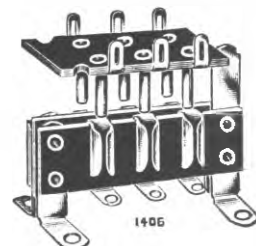
P-202-CCT Plug only	Ea. \$.50
S-202-B Socket only	Ea. .60
PS-202-CCT Plug and Socket	Ea. 1.10

1400 SERIES PLUGS AND SOCKETS

This series of "disconnect" plugs and sockets has the distinct advantage of low cost for a separable unit handling many circuits. Due to exposed metal parts, it is recommended for use when the complete unit is within a housing.

Reduces costs of servicing units. Advantageous in shipping when it is desirable to pack units separately. Polarized—assures correct

coupling. Spring temper brass sockets assure perfect contact. Standard units are listed below from 5 to 16 contacts. However, we can supply units having as many as 30 or more contacts. On No. 1420 or larger we recommend the plug be divided into two or more units, as a single long plug is not mechanically strong. The socket will be made in one assembly.



1406

No. 1405	(5 Contacts)	Ea. \$.20	No. 1411	(11 Contacts)	Ea. \$.44
No. 1406	(6 Contacts)	Ea. .24	No. 1412	(12 Contacts)	Ea. .48
No. 1407	(7 Contacts)	Ea. .28	No. 1413	(13 Contacts)	Ea. .52
No. 1408	(8 Contacts)	Ea. .32	No. 1414	(14 Contacts)	Ea. .56
No. 1409	(9 Contacts)	Ea. .36	No. 1415	(15 Contacts)	Ea. .60
No. 1410	(10 Contacts)	Ea. .40	No. 1416	(16 Contacts)	Ea. .64

For units with more than 16 contacts, add 4c to the No. 1416 price for each additional contact.



ENGRAVING

S A M P L E O F 3-32 C H A R A C T E R S + - Ω ~ 1 2 3 4

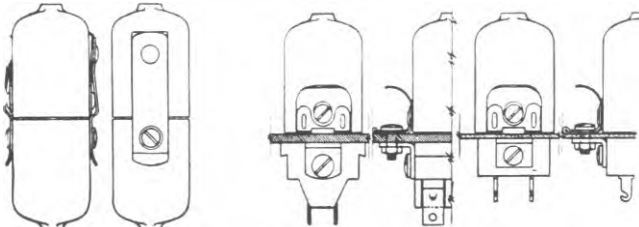
S A M P L E O F 1-8 C H A R A C T E R S

All terminal strips listed in this catalog may be supplied with terminal designations to order. We have equipment to imprint in white as illustrated above, letters, numbers, or symbols. Two sizes of characters as shown, $\frac{3}{32}$ " and $\frac{1}{8}$ ". If no preference is given, we will use the size best suited. As work of this kind is special and requires setting up the imprinting machine, the charge is made per character.

Jobbers note: We have a net price schedule on lettering in quantities from 1 panel to 1000 panels having 1 character to 50 characters. All orders will be invoiced according to this net price schedule. Supplied upon application.

PRICE: Imprinted characters on special small quantity orders. PER CHARACTER. \$.04

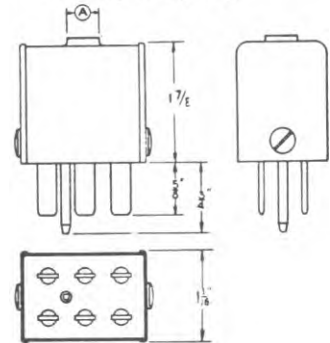
LOCKS FOR 400 SERIES PLUGS AND SOCKETS (Formerly Heavy Duty)



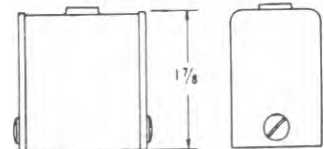
ILLUSTRATING No. 93 LOCK. May be attached to any 400 Series plug for extension cables. If plugs are ordered with this lock, specify "with No. 93 locks".
No. 93 Lock when attached to plug, add to list \$.25
No. 93 Locks ONLY per pair .25

ILLUSTRATING No. 63 LOCK. May be used on all panel mount 400 Series plugs and sockets when surface is flush with top of panel. Cannot be used on type CB plugs, or plugs with $\frac{3}{4}$ " or $\frac{3}{4}$ " brackets.
No. 63 Locks ONLY, per pair \$.25

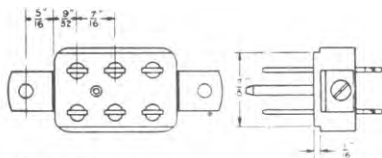
DIMENSIONAL DATA ON 400 SERIES PLUGS AND SOCKETS (Formerly Heavy Duty)



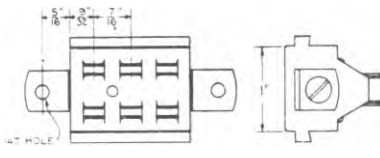
SIX CONTACT HEAVY DUTY PLUG WITH FLARED HOLE IN TOP OF CAP



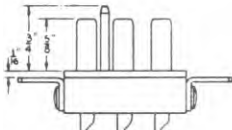
SIX CONTACT HEAVY DUTY SOCKET WITH FLARED HOLE IN TOP OF CAP



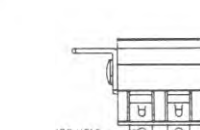
SIX CONTACT HEAVY DUTY PLUG WITH ANGLE BRACKETS FOR 1/16" PANEL (P5AB 1/16)



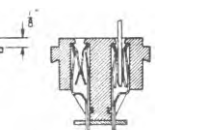
TYPE 151 SIX CONTACT HEAVY DUTY SOCKET WITH ANGLE BRACKETS (S5AB)



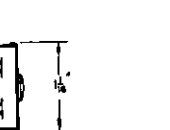
ANGLE BRACKET (CODE AB 1/16) ATTACHED TO HEAVY DUTY PLUG



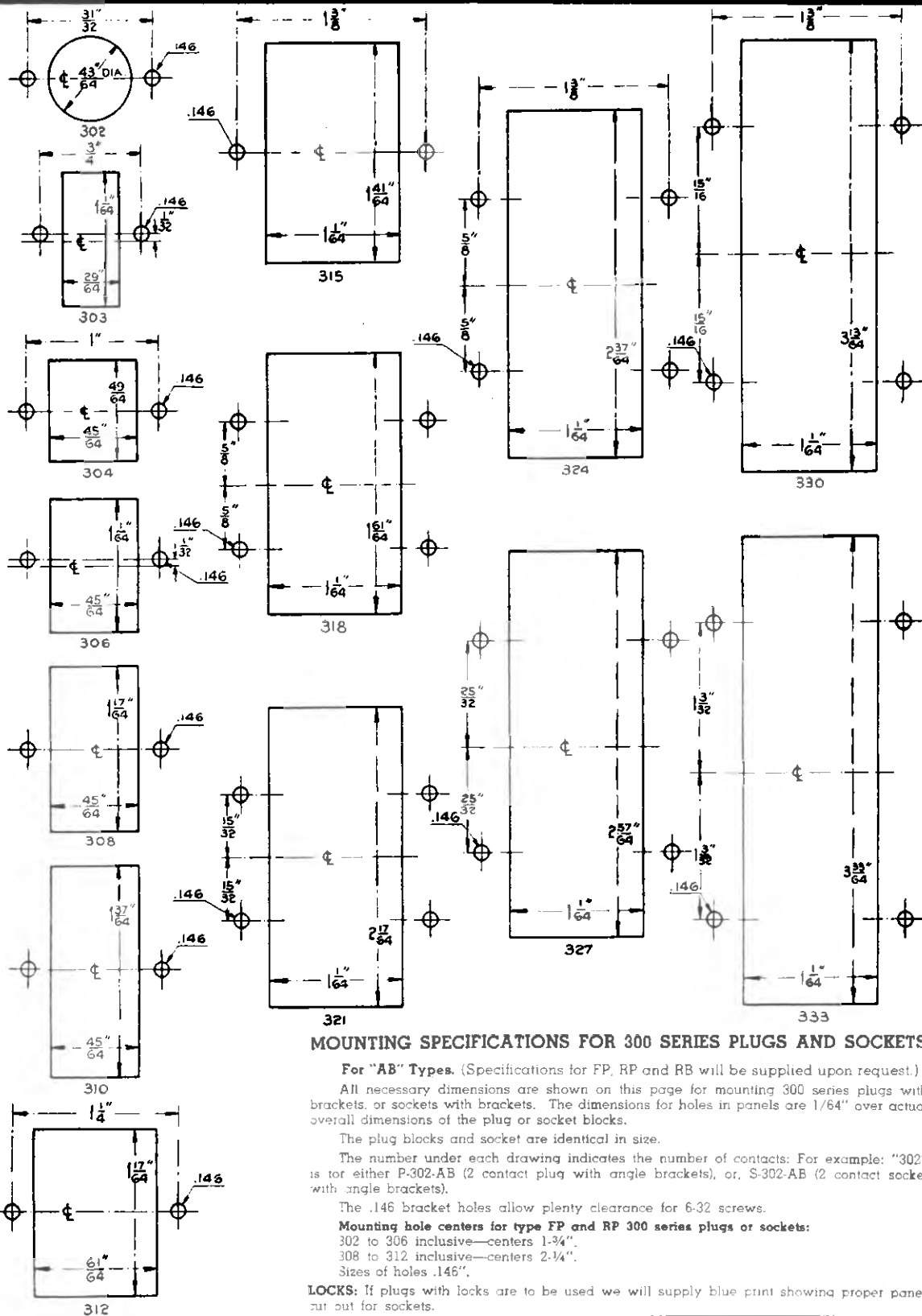
ANGLE BRACKET (CODE AB 3/8) ATTACHED TO HEAVY DUTY PLUG



ANGLE BRACKET (CODE AB 3/4) ATTACHED TO HEAVY DUTY PLUG



ANGLE BRACKET (CODE AB) ATTACHED TO HEAVY DUTY SOCKET



HUGH H. EBY, INC. **EBY** PHILADELPHIA

SOCKETS—CONNECTORS—PLUGS

TYPE 12 SOCKET



12-4

For many years this socket has been the choice of the industry as a hard service socket for top of the panel or sub-panel mounting. The entire socket is molded in one piece from highest quality Bakelite. The contacts are especially designed for long life and abuse. All contact designations are molded on both top and bottom of the base. Mounting centers are 1 11/16".

Cat. No.	No. of Contacts	List Price
12-4	4	\$0.30
12-5	5	.30
12-6	6	.40
12-7-N-O	7 lg. & sm. comb.	.40
12-8	8 Octal	.40

TYPE No. 8 SOCKET



8-4

Another hard service socket using same contacts and in other respects very similar to Type 12 socket except that the base consists of separate laminated Bakelite plate.

Mounting centers 1 11/16".

Cat. No.	No. of Prongs	List Price
8-4	4	\$0.25
8-5	5	.25
8-6	6	.25
8-7-N	7 .750 layout	.25
8-8	8 Octal	.25

MOLDED MALE CABLE CONNECTOR



7-4



Unassembled

This very popular connector is supplied with a demountable molded cap as illustrated. The prongs are riveted to high grade Bakelite plates, and are in accordance with RMA standards. They may be used with our No. 11 series of female connectors described below, or in any standard laminated or molded socket, including the Octal.

Cat. No.	No. of Prongs	Hole Diam.	List Price
7-4	4	5/16"	\$0.15
7-5	5	3/8"	.15
7-6	6	7/16"	.15
7-7-N	7 .750 layout	1/2"	.20
7-7-O	7 .855 "	1/2"	.20
7-8	8 Octal	1/2"	.20

MOLDED FEMALE CABLE CONNECTOR



11-4

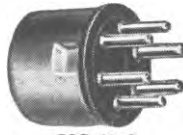


Unassembled

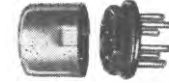
This very popular connector readily fits our male No. 7 connector plugs described above. It provides for a quick, safe method to make multiple circuit connections. The base is made of high-grade molded Bakelite and the contacts are made of high-grade phosphor bronze. All prong arrangements are to RMA standards.

Cat. No.	No. of Prongs	Hole Diam.	List Price
11-4	4	5/16"	\$0.35
11-5	5	3/8"	.35
11-6	6	7/16"	.35
11-7-N	7 .750 layout	1/2"	.35
11-7-O	7 .855 "	1/2"	.35

SHIELDED MALE CABLE CONNECTOR



MC-19-6



MC-19-6 Unassembled

This high grade molded Bakelite connector readily snaps into cadmium plated steel shell which locks it firmly. It may be opened by a screw driver when necessary. Depth of shell is 1 1/16", diameter 1 1/4". Supplied unassembled. Shell is furnished with insulated paper liner.

Cat. No.	No. of Prongs	List Price
MC-19-4	4	\$0.20
MC-19-5	5	.20
MC-19-6	6	.20
MC-19-7	7 .750 layout	.20
MC-19-8	8 Octal	.20

SHIELDED FEMALE CABLE CONNECTOR



FC-20



FC-20 Unassembled

The socket used in this female connector can be any one of our type 20 glass tube sockets or Octal sockets, illustrated. These sockets, having the same hexagon base diameter as our MC-19 series male connectors, readily snap into the same steel shell illustrated and described above. They are furnished unassembled. The shell is furnished with insulated paper liner. Depth of shell 1 1/16", diameter 1 1/4".

Cat. No.	No. of Prongs	List Price
FC-20-4	4	\$3.20
FC-20-5	5	.20
FC-20-6	6	.20
FC-20-7	7 .750 layout	.20
FC-20-8	8 Octal	.20

CABLE COUPLER



1920

Cut at left illustrates a very convenient coupling element made of steel, cadmium plated. This element readily accommodates any of our MC or FC line of male and female connectors and permits any combination of either type plug or socket desired.

Any of our type 19 plugs or type 20 sockets may be easily snapped into the steel sleeve, which is furnished with insulated paper liner, and they can be readily removed by use of a screw driver when necessary.

Cat. No. 1920. Without plug or socket. List price \$0.10 each

CHASSIS PLUGS, SUB-PANEL TYPE



R-19-6



S-19-8-O

R-19 is a new molded Bakelite plug which fills a long existing need. As illustrated, it is furnished mounted on a steel, cadmium plated plate, with elongated holes ready for mounting on a chassis or panel. Mounting ring can be removed to allow turning of plug if necessary. Elongated holes permit mounting on panel with holes ranging from 1 1/2" to 1 11/16" centers.

S-19 is the same plug as described above. It is furnished with a mounting spring only and without the mounting plate, thus permitting the plug to be quickly attached to any panel having a hexagon hole measuring 1" across flats. The following list prices apply to both types.

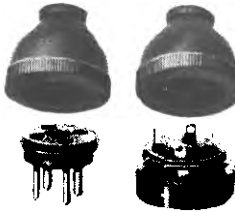
Cat. No.	No. of Prongs	List Each
R-19-4	4 With plate	\$0.12
R-19-5	5 "	.12
R-19-6	6 "	.12
R-19-7	7 "	.12
R-19-8-O	8 Octal	.15
S-19-4	4 With spring	.11
S-19-5	5 "	.11
S-19-6	6 "	.11
S-19-7	7 "	.11
S-19-8-O	8 Octal	.14

ALL BAKELITE PARTS REGULARLY FURNISHED IN BLACK UNLESS OTHERWISE NOTED

HUGH H. EBY, INC. **EBY** PHILADELPHIA

PLUGS—CONNECTORS—JACKS

RUBBER CAPPED PLUGS



Rubber capped male and female plugs, 4, 5, 6 or 7 conductors. Furnished unassembled in standard packages of 10.

Short Cap, cable hole 5/16".

			List Price
97-4-505	99-4-505	4 prong Male	\$0.20
97-5-505		5 " "	.20
97-6-505		6 " "	.25
97-7N-505		7 " " .750" layout	.25
99-4-505		4 prong Female	.35
99-5-505		5 " "	.35
99-6-505		6 " "	.40
99-7N-505		7 " " .750" layout	.40
99-70-505		7 " " .855" "	.40



Short Right Angle Cap, cable hole 5/16".

			List Price
97-4-506		4 prong Male	\$0.25
97-5-506		5 " "	.25
97-6-506		6 " "	.30
97-7N-506		7 " " .750" layout	.30
99-4-506		4 prong Female	.40
99-5-506		5 " "	.40
99-6-506		6 " "	.45
99-7N-506		7 " " .750" layout	.45
99-70-506		7 " " .855" "	.45



Medium Length Cap, cable hole 5/16".

			List Price
97-4-515		4 prong Male	\$0.25
97-5-515		5 " "	.25
97-6-515		6 " "	.30
97-7N-515		7 " " .750" layout	.30
99-4-515		4 prong Female	.40
99-5-515		5 " "	.40
99-6-515		6 " "	.45
99-7N-515		7 " " .750" layout	.45
99-70-515		7 " " .855" "	.45



Long Length Cap, cable hole 5/16".

			List Price
97-4-525		4 prong Male	\$0.30
97-5-525		5 " "	.30
97-6-525		6 " "	.35
97-7N-525		7 " " .750" layout	.35
99-4-525		4 prong Female	.45
99-5-525		5 " "	.45
99-6-525		6 " "	.50
99-7N-525		7 " " .750" layout	.50
99-70-525		7 " " .855" "	.50



Long Extra Large Stem Cap, cable hole 7/16".

			List Price
97-4-530		4 prong Male	\$0.35
97-5-530		5 " "	.35
97-6-530		6 " "	.40
97-7N-530		7 " " .750" layout	.40
99-4-530		4 prong Female	.50
99-5-530		5 " "	.50
99-6-530		6 " "	.55
99-7N-530		7 " " .750" layout	.55
99-70-530		7 " " .855" "	.55

SPEAKER PLUGS



A sturdy one-piece molded Bakelite plug with deep holes in top permitting insulation on wire to enter 1/4". RMA standard layout.

Cat. No.	No. of Prongs	List Price
28-4	4	\$0.12
28-5	5	.12
28-6	6	.12
28-7N	7 .750 layout	.12

BATTERY PLUGS



Special prong layout. Here is another one-piece molded Bakelite plug which is universally used on battery cables.

Cat. No.	No. of Prongs	Volts	List Price
30-2M	2	1 1/2 V-A	\$0.08
30-3M	3	45 V-B	.08

Our No. 30 series, one-piece molded plugs, need no introduction. They have been used for years in connection with plug-in type dry batteries and for other special uses, and are made in various prong arrangements listed below.



Cat. No.	No. of Prongs	Volts	List Price
30-2	2	3 V-A	\$0.10
30-3B	3	45 V-B	.10
30-3C	3	4 1/2 V-C	.10
30-5	5	22 1/2 V-C	.10
30-7	5	7 1/2 V-C	.10
30-4	4	Comb. A & B	.10

TIP JACKS



Our No. 49 tip jack has been a favorite among various manufacturers for many years. The brass barrel is 5/16" in diameter with 32 threads per inch.

It is supplied with one nut and two insulating washers. One washer is extruded to insulate barrel from panel; the other is flat with a hole to clear the threaded body.

Mounting hole in panel to take extruded washer, 19/64".

Supplied with either red or black Bakelite molded tops.

The contacts are made of bronze and provide a smooth, highly resilient contact, and will withstand plenty of abuse.

Cat. No.	List Price
49 Red or Black	\$0.10

TWIN AND TRIPLE JACKS



Our Twin and Triple Tip Jacks, as illustrated, have been nationally used for 15 years. The Twin Jacks are supplied in either moulded or laminated as shown, and may be obtained plain (no lettering) or marked **SPEAKER** or **PHONO**. Specify marking if desired. Mounting screw molded Twin Jack 6-32 thread. Mounting centers twin laminated 1 11/16".



Our Triple Tip Jack is supplied only in laminated material, and without markings, except on large quantity orders.



Cat. No.	Item	Material	List Price
17	Twin	Molded	\$0.35
18	Twin	Laminated	.10
18-T	Triple	Laminated	.15

ALL BAKELITE PARTS REGULARLY FURNISHED IN BLACK UNLESS OTHERWISE NOTED

HUGH H. EBY, INC. **EBY** PHILADELPHIA

SOCKETS—CONNECTORS—PLUGS

TYPE 12 SOCKET

For many years this socket has been the choice of the industry as a hard service socket for top of the panel or sub-panel mounting. The entire socket is molded in one piece from highest quality Bakelite. The contacts are especially designed for long life and abuse. All contact designations are molded on both top and bottom of the base. Mounting centers are 1 11/16".



Cat. No.	No. of Contacts	List Price
12-4	4	\$0.30
12-5	5	.30
12-6	6	.40
12-7-N-O	7 lg. & sm. comb.	.40
12-8	8 Octal	.40

TYPE No. 8 SOCKET

Another hard service socket using same contacts and in other respects very similar to Type 12 socket except that the base consists of separate laminated Bakelite plate.



Mounting centers 1 11/16".

Cat. No.	No. of Prongs	List Price
8-4	4	\$0.25
8-5	5	.25
8-6	6	.25
8-7N	7 .750 layout	.25
8-8	8 Octal	.25

MOLDED MALE CABLE CONNECTOR

This very popular connector is supplied with a demountable molded cap as illustrated. The prongs are riveted to high grade Bakelite plates, and are in accordance with RMA standards. They may be used with our No. 11 series of female connectors described below, or in any standard laminated or molded socket, including the Octal.



Unassembled

Cat. No.	No. of Prongs	Hole Diam.	List Price
7-4	4	5/16"	\$0.15
7-5	5	3/8"	.15
7-6	6	7/16"	.15
7-7-N	7 .750 layout	1/2"	.20
7-7-O	7 .855 "	1/2"	.20
7-8	8 Octal	1/2"	.20

MOLDED FEMALE CABLE CONNECTOR

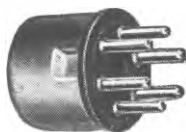
This very popular connector readily fits our male No. 7 connector plugs described above. It provides for a quick, safe method to make multiple circuit connections. The base is made of high-grade molded Bakelite and the contacts are made of high-grade phosphor bronze. All prong arrangements are to RMA standards.



Unassembled

Cat. No.	No. of Prongs	Hole Diam.	List Price
11-4	4	5/16"	\$0.35
11-5	5	3/8"	.35
11-6	6	7/16"	.35
11-7-N	7 .750 layout	1/2"	.35
11-7-O	7 .855 "	1/2"	.35

SHIELDED MALE CABLE CONNECTOR



MC-19-6



MC-19-6 Unassembled

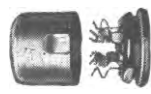
This high grade molded Bakelite connector readily snaps into cadmium plated steel shell which locks it firmly. It may be opened by a screw driver when necessary. Depth of shell is 1 1/16", diameter 1 1/4". Supplied unassembled. Shell is furnished with insulated paper liner.

Cat. No.	No. of Prongs	List Price
MC-19-4	4	\$0.20
MC-19-5	5	.20
MC-19-6	6	.20
MC-19-7	7 .750 layout	.20
MC-19-8	8 Octal	.20

SHIELDED FEMALE CABLE CONNECTOR



FC-20



FC-20 Unassembled

The socket used in this female connector can be any one of our type 20 glass tube sockets or Octal sockets, illustrated. These sockets, having the same hexagon base diameter as our MC-19 series male connectors, readily snap into the same steel shell illustrated and described above. They are furnished unassembled. The shell is furnished with insulated paper liner. Depth of shell 1 1/16", diameter 1 1/4".

Cat. No.	No. of Prongs	List Price
FC-20-4	4	\$0.20
FC-20-5	5	.20
FC-20-6	6	.20
FC-20-7	7 .750 layout	.20
FC-20-8	8 Octal	.20

CABLE COUPLER



1920

Cut at left illustrates a very convenient coupling element made of steel, cadmium plated. This element readily accommodates any of our MC or FC line of male and female connectors and permits any combination of either type plug or socket desired.

Any of our type 19 plugs or type 20 sockets may be easily snapped into the steel sleeve, which is furnished with insulated paper liner, and they can be readily removed by use of a screw driver when necessary.

Cat. No. 1920. Without plug or socket. List price \$0.10 each

CHASSIS PLUGS, SUB-PANEL TYPE

R-19 is a new molded Bakelite plug which fills a long existing need. As illustrated, it is furnished mounted on a steel, cadmium plated plate, with elongated holes ready for mounting on a chassis or panel. Mounting ring can be removed to allow turning of plug if necessary. Elongated holes permit mounting on panel with holes ranging from 1 1/2" to 1 11/16" centers.



R-19-6

S-19 is the same plug as described above. It is furnished with a mounting spring only and without the mounting plate, thus permitting the plug to be quickly attached to any panel having a hexagon hole measuring 1" across flats. The following list prices apply to both types.



S-19-8-O

Cat. No.	No. of Prongs	List Each
R-19-4	4 With plate	\$0.12
R-19-5	5 " "	.12
R-19-6	6 " "	.12
R-19-7	7 " "	.12
R-19-8-O	8 Octal " "	.15
S-19-4	4 With spring	.11
S-19-5	5 " "	.11
S-19-6	6 " "	.11
S-19-7	7 " "	.11
S-19-8-O	8 Octal " "	.14

ALL BAKELITE PARTS REGULARLY FURNISHED IN BLACK UNLESS OTHERWISE NOTED

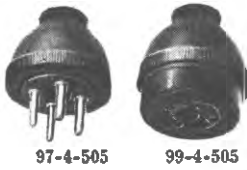
RUBBER CAPPED PLUGS



Rubber capped male and female plugs, 4, 5, 6 or 7 conductors. Furnished unassembled in standard packages of 10.

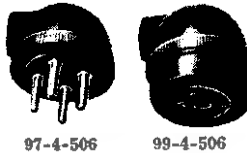
Short Cap, cable hole 5/16".

Cat. No.	No. of Prongs	Layout	List Price
97-4-505	4 prong Male		\$0.20
97-5-505	5 " "		.20
97-6-505	6 " "		.25
97-7N-505	7 " "	.750" layout	.25
99-4-505	4 prong Female		.35
99-5-505	5 " "		.35
99-6-505	6 " "		.40
99-7N-505	7 " "	.750" layout	.40
99-7O-505	7 " "	.855" "	.40



Short Right Angle Cap, cable hole 5/16".

Cat. No.	No. of Prongs	Layout	List Price
97-4-506	4 prong Male		\$0.25
97-5-506	5 " "		.25
97-6-506	6 " "		.30
97-7N-506	7 " "	.750" layout	.30
99-4-506	4 prong Female		.40
99-5-506	5 " "		.40
99-6-506	6 " "		.45
99-7N-506	7 " "	.750" layout	.45
99-7O-506	7 " "	.855" "	.45



Medium Length Cap, cable hole 5/16".

Cat. No.	No. of Prongs	Layout	List Price
97-4-515	4 prong Male		\$0.25
97-5-515	5 " "		.25
97-6-515	6 " "		.30
97-7N-515	7 " "	.750" layout	.30
99-4-515	4 prong Female		.40
99-5-515	5 " "		.40
99-6-515	6 " "		.45
99-7N-515	7 " "	.750" layout	.45
99-7O-515	7 " "	.855" "	.45



Long Length Cap, cable hole 5/16".

Cat. No.	No. of Prongs	Layout	List Price
97-4-525	4 prong Male		\$0.30
97-5-525	5 " "		.30
97-6-525	6 " "		.35
97-7N-525	7 " "	.750" layout	.35
99-4-525	4 prong Female		.45
99-5-525	5 " "		.45
99-6-525	6 " "		.50
99-7N-525	7 " "	.750" layout	.50
99-7O-525	7 " "	.855" "	.50



Long Extra Large Stem Cap, cable hole 7/16".

Cat. No.	No. of Prongs	Layout	List Price
97-4-530	4 prong Male		\$0.35
97-5-530	5 " "		.35
97-6-530	6 " "		.40
97-7N-530	7 " "	.750" layout	.40
99-4-530	4 prong Female		.50
99-5-530	5 " "		.50
99-6-530	6 " "		.55
99-7N-530	7 " "	.750" layout	.55
99-7O-530	7 " "	.855" "	.55

SPEAKER PLUGS



A sturdy one-piece molded Bakelite plug with deep holes in top permitting insulation on wire to enter 1/4". RMA standard layout.

Cat. No.	No. of Prongs	List Price
28-4	4	\$0.12
28-5	5	.12
28-6	6	.12
28-7N	7 .750 layout	.12

BATTERY PLUGS



Special prong layout. Here is another one-piece molded Bakelite plug which is universally used on battery cables.

Cat. No.	No. of Prongs	Volts	List Price
30-2M	2	1 1/2 V-A	\$0.08
30-3M	3	45 V-B	.08

Our No. 30 series, one-piece molded plugs, need no introduction. They have been used for years in connection with plug-in type dry batteries and for other special uses, and are made in various prong arrangements listed below.



Cat. No.	No. of Prongs	Volts	List Price
30-2	2	3 V-A	\$0.10
30-3B	3	45 V-B	.10
30-3C	3	4 1/2 V-C	.10
30-5	5	22 1/2 V-C	.10
30-7	5	7 1/2 V-C	.10
30-4	4	Comb. A & B	.10

TIP JACKS



Our No. 49 tip jack has been a favorite among various manufacturers for many years. The brass barrel is 5/16" in diameter with 32 threads per inch.

It is supplied with one nut and two insulating washers. One washer is extruded to insulate barrel from panel; the other is flat with a hole to clear the threaded body.

Mounting hole in panel to take extruded washer, 19/64".

Supplied with either red or black Bakelite molded tops.

The contacts are made of bronze and provide a smooth, highly resilient contact, and will withstand plenty of abuse.

Cat. No.	List Price
49 Red or Black	\$0.10

TWIN AND TRIPLE JACKS



Our Twin and Triple Tip Jacks, as illustrated, have been nationally used for 15 years. The Twin Jacks are supplied in either moulded or laminated as shown, and may be obtained plain (no lettering) or marked SPEAKER or PHONO. Specify marking if desired. Mounting screw molded Twin Jack 6-32 thread. Mounting centers twin laminated 1 11/16".



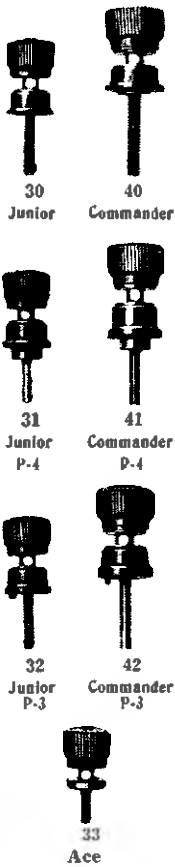
Our Triple Tip Jack is supplied only in laminated material, and without markings, except on large quantity orders.



Cat. No.	Item	Material	List Price
17	Twin	Molded	\$0.35
18	Twin	Laminated	.10
18-T	Triple	Laminated	.15

ALL BAKELITE PARTS REGULARLY FURNISHED IN BLACK UNLESS OTHERWISE NOTED

INSULATED BINDING POSTS



These popular Eby Binding Posts have been America's standard for many years. Their sturdy construction, excellent quality and patented non-removable heads make them preferred to all others.

Nos. 30 and 40 have a knurled insert projecting below the insulated base to prevent post turning when mounted. The metal base of No. 33 is knurled to prevent turning.

Nos. 31 and 41 have a flattened two-side extension molded on the Bakelite base. The extension on No. 31 is furnished in three lengths: 1/32", 1/16" and 1/8". The extension on No. 41 is 1/8". Please mention length of extension when ordering No. 31.

Nos. 32 and 42 have a dowel pin molded in the base to prevent turning.

Cat. No.	Name	Height Closed	Cap Diam.	Insulation	List Price
30	Junior	11/16"	1/2"	Comp.	\$0.15
31	Jr. P-4	"	"	Note 1	.20
32	Jr. P-3	"	"	Note 1	.20
33	Ace	29/32"	"	Comp.	.15
40	Com'der	3/4"	5/8"	Comp.	.30
41	" P-4	"	"	Note 1	.35
42	" P-3	"	"	Note 1	.35

Packed 10 to a box. Standard package 50. Supplied in black only. A soldering lug and nut are furnished with each of the above.

Note 1: Composition top and Bakelite base.

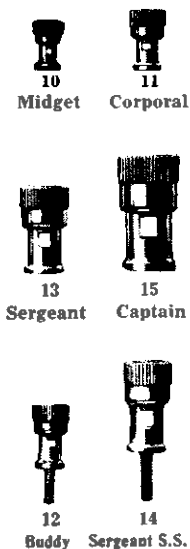
MARKINGS—All posts supplied plain unless otherwise specified, but the following markings are available at same prices:

On Junior posts: ANT, GND, INPUT, OUTPUT, + or —.

On Commander posts: + or —.

On Ace post: ANT or GND.

METAL BINDING POSTS



These high quality patented Binding Posts have been nationally used for many years. An accurately milled slot across the base provides the lower contacting surface. A precision milled sliding shoe which operates by the cap serves as the upper contacting surface, thus assuring a positive, parallel contact to be made on a pin jack, stranded or solid cable.

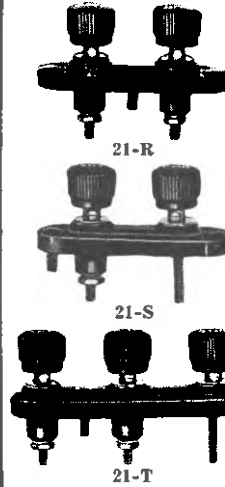
To further prove the accuracy of these posts, a firm contact can be made on a very fine wire without cutting or marring it. The base on all of these posts is heavily knurled to prevent turning.

Cat. No.	Name	Height Closed	Cap Diam.	List Price
10	Midget	7/16"	5/16"	\$0.15
11	Corporal	9/16"	3/8"	.20
12	Buddy	9/16"	3/8"	.20
13	Sergeant	3/4"	1/2"	.30
14	Serg. S.S.	3/4"	1/2"	.35
15	Captain	1"	5/8"	.45

Packed 10 to a box. Standard package 50.

Note: All of the above posts are made from brass, tumbled nickel finish. With each of the above posts mounting screws and nuts are furnished

MOLDED TWIN AND TRIPLE BINDING POSTS

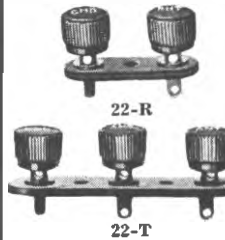


These high quality standard Eby patented posts are molded on special Bakelite bases of excellent quality, and are black in color.

For the convenience of users the posts on either the twin or triple assemblies may be supplied plain or with any of the following markings: ANT, GND, L ANT, S ANT, INPUT, OUTPUT, + or —, on special request. If no marking is specified all assemblies will be furnished as indicated below. All posts measure 7/8" between centers.

Cat. No.	Markings	List Price
21-R	Twin Ant., Gnd.	\$0.50
21-S	Twin Ant., Gnd.	.50
21-T	Triple L. Ant., S. Ant., Gnd.	.65

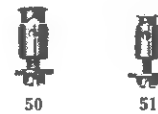
LAMINATED TWIN & TRIPLE BINDING POSTS



Our standard non-removable head Binding Posts mounted on brown laminated Bakelite strips. No mounting screws provided. All posts insulated. Markings only as indicated.

Cat. No.	Markings	List Price
22-R	Twin Ant., Gnd.	\$0.40
22-T	Triple L. Ant., S. Ant., Gnd.	.55

SPRING TYPE BINDING POSTS

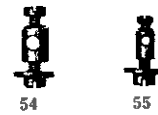


Top section telescopes into bottom section. Hole in center of both sections allows insertion of wire, and spring action holds wire firmly.

Bottom knurled to prevent turning when mounted. Bottom tapped. Mounting screw and washer supplied.

Cat. No.	Height	Dia.	Thread	List Price
50	1/2"	5/16"	6-32	\$0.07
51	7/16"	1/4"	4-40	.06

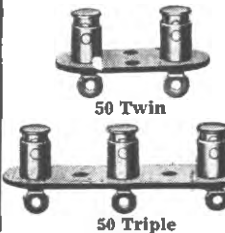
SCREW TYPE BINDING POSTS



Filister head screw in top grips wire inserted in horizontal hole in body of post. Bottom tapped. Mounting screw and washer supplied.

Cat. No.	Height	Dia.	Thread	List Price
54	1/2"	9/32"	6-32	\$0.05
55	3/8"	3/16"	4-40	.05

SPRING TYPE TWIN & TRIPLE BINDING POSTS



Type 50 Spring Post mounted on laminated Bakelite strips, with two mounting holes.

50	Twin Posts	List Price	\$0.20
50	Triple Posts	List Price	.30

ALL BAKELITE PARTS REGULARLY FURNISHED IN BLACK UNLESS OTHERWISE NOTED

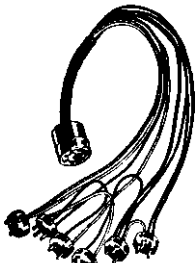
MOST combination AB battery packs are out of balance insofar as battery life is concerned. As a rule, the "B" section of a pack wears out before the "A" section. By using individual dry batteries and an Eby Adaptor Cable, replacement of a complete battery pack is eliminated. Only the individual battery that goes bad need be renewed. This means a big saving to the user. All cables are of ample length to allow placing the batteries on the floor near the receiving set if there is insufficient room for the batteries in the receiver cabinet.



5394-7

Battery Adaptor Cable, equipped with 7-prong socket. Permits replacement of power pack in Philco Nos. 37-33, 37-38, 38-33 and 38-38 with three 45 V. "B" and two 4½ V. "C" batteries.

5394-7 List Price\$1.50



5394-8

Battery Adaptor Cable, equipped with 8-prong socket, for Philco Nos. 34, 34A, 39 and 39A. Permits use of three 45 V. "B" and three 4½ V. "C" batteries.

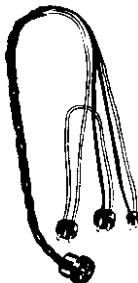
5394-8 List Price\$1.50



5846-3

Battery Adaptor Cable, equipped with 1 female receptacle fitting the 90 volt "B" battery plug using the small 3-prong layout and 1 female receptacle fitting the standard 1.4 volt battery plug. The opposite end of the cable is fitted with our special 4-prong plug to fit the AB pack.

5852 (Not illustrated) List Price ..\$0.75



5846-4

Battery Adaptor Cable allows replacement of the 90-volt B battery pack with individual 45-volt B batteries in Philco Nos. 70, 71, 80 and 85. Fitted with sockets to take the plug from the receiver cable and two plugs to fit any standard 45-volt "B" batteries.

5846-3 List Price\$0.60

Battery Adaptor Cable provides for replacement of battery packs on all sets using new AB packs with standard 45-volt "B" batteries and 1½-volt dry "A" batteries.

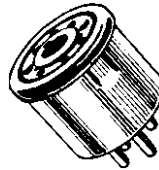
5846-4 List Price\$0.75



5903
5943

Battery Adaptor Cable has been designed for use with all battery sets using 2—45-volt "B" batteries and the 1½-volt "A" battery. It allows the use and convenience of the single AB battery pack in place of the individual A and B batteries. The cable is fitted with 3 female receptacles for either the standard or the small layout "B" battery plugs from the receiver, and the opposite end of the cable is fitted with our special 4-prong plug to fit the AB pack.

List Price
5903 Standard "B" Layout.....\$0.75
5943 Small 3-prong Layout..... .75



5870

Battery Adaptor is designed for use with Zenith 4K 331, 4K 310 and 4K 355 battery sets. The female end fits the male plug on the receiver cable. The male end fits the Eby No. 5846-4 Battery Adaptor Cable so as to allow the use of standard "A" and "B" batteries in place of the battery pack.

5870 List Price\$0.40



5857-1
5857-2
5857-3

Battery Adaptor Cable has been designed to allow the replacement of battery packs in many battery operated sets with standard 45-volt "B" batteries and 2-volt wet "A" batteries. It is wired on one end with a special 4-prong female receptacle to fit the 4-prong male plug on the receiver. The opposite end of the adaptor cable is fitted with two male plugs to fit any standard 45-volt "B" battery and two spade terminals to fit a wet 2-volt "A" battery.

Cat. No.	Ohm Resistor		List Price
5857-3	2.5	for 4 tube sets	\$0.95
5857-2	2.0	" 5 " "	.95
5857-1	1.43	" 6 " "	.95



5878-1
5878-2
5878-3

Battery Adaptor Cable has been designed to allow the replacement of the 1½-volt "A" dry battery with a 2-volt wet "A" battery. It is equipped with a 2-prong female receptacle at one end which fits the plug on the receiver cable. The opposite end is fitted with two spade type terminals to fit the posts on the storage battery. A resistor holder is placed on the plus "A" lead to allow for the different drain taken by sets with 4, 5 or 6 tubes.

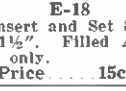
Cat. No.	Ohm Resistor		List Price
5878-3	2.5	for 4 tube sets	\$0.75
5878-2	2.0	" 5 " "	.75
5878-1	1.43	" 6 " "	.75

USERS OF EBY ADAPTORS AND ADAPTOR HARNESES APPRECIATE THE SAVING

KNOBS AND TERMINAL NUTS



E-17
 $\frac{1}{4}$ " Insert and Set Screw.
 Dia. $1\frac{1}{2}$ ". Filled Arrow.
 Black only.
 List Price 12c each



E-18
 $\frac{1}{4}$ " Insert and Set Screw.
 Dia. $1\frac{1}{2}$ ". Filled Arrow.
 Black only.
 List Price 15c each



E-127
 $1\frac{1}{4}$ " Ornamental Top. Set
 Screw type. $\frac{1}{4}$ " Plain
 Hole with Set Screw. Wal-
 nut only.
 List Price 10c each



E-230
 Insert and Set Screw. Dia.
 $\frac{3}{4}$ ". Ht. $9/16$ ". Depth
 hole $7/16$ ". Walnut only.
 List Price 10c each



E-292
 Set Screw — no Insert.
 Filled Pointer. Radius $\frac{3}{8}$ ".
 Ht. $\frac{5}{8}$ ". Depth hole $\frac{1}{2}$ ".
 Black and Walnut.
 List Price 12c each



E-449
 Set Screw — no Insert.
 Dia. $\frac{3}{4}$ ". Height $\frac{3}{4}$ ".
 Depth hole $9/16$ ". Black
 only.
 List Price 10c each



E-450
 Set Screw — no Insert.
 Dia. $\frac{3}{4}$ ". Height $\frac{3}{4}$ ".
 Depth hole $9/16$ ". Black
 only.
 List Price 12c each



E-467
 Set Screw — no Insert. Dia.
 1". Height $41/64$ ". Depth
 hole $\frac{1}{2}$ ". Black only.
 List Price 12c each



E-468
 Set Screw — no Insert. Dia.
 $1\frac{1}{8}$ ". Height $37/64$ ".
 Depth hole $7/16$ ". Black
 only.
 List Price 10c each



MIDGET
 (Composition)
 $\frac{3}{8}$ " Dia. $6/32$ Thread.
 Black only. 100 to a carton.
 List Price 5c each



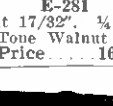
E-52
 1" Plain Top. $\frac{1}{4}$ " Plain
 Insert with Set Screw.
 Black only.
 List Price 12c each



E-132
 $1\frac{1}{16}$ " Octagon Pyramid
 Top Set Screw type. $\frac{1}{4}$ "
 Plain Hole with Set
 Screw. Walnut only.
 List Price 14c each



E-280
 Height $15/32$ ". $\frac{1}{4}$ " Hole.
 Two Tone. Walnut only.
 List Price 14c each



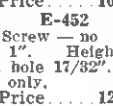
E-281
 Height $17/32$ ". $\frac{1}{4}$ " Hole.
 Two Tone Walnut only.
 List Price 16c each



E-293
 Set Screw — no Insert.
 Filled Pointer. Radius
 $1\frac{1}{8}$ ". Height $\frac{5}{8}$ ". Depth
 hole $\frac{1}{2}$ ". Black or Wal-
 nut.
 List Price 15c each



E-451
 Set Screw — no Insert.
 Dia. $1\frac{1}{8}$ ". Height $17/32$ ".
 Depth hole $\frac{3}{8}$ ". Black only.
 List Price 10c each



E-452
 Set Screw — no Insert.
 Dia. 1". Height $\frac{5}{8}$ ".
 Depth hole $17/32$ ".
 Black only.
 List Price 12c each



E-453
 Set Screw — no Insert.
 Dia. 1". Height $21/32$ ".
 Depth hole $17/32$ ". Black
 only.
 List Price 12c each



ACE
 (Composition)
 $\frac{1}{2}$ " Dia. $8/32$ Thread.
 Black only. 100 to a carton.
 List Price 5c each



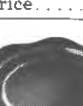
E-76
 $\frac{3}{8}$ " Terminal Nut. $10/32$ "
 Threaded Insert. Black
 only.
 List Price 10c each



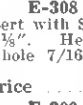
E-137
 Set Screw — no Insert.
 Dia. $1\frac{1}{16}$ ". Height
 $23/32$ ". Depth hole $9/16$ ".
 Walnut only.
 List Price 15c each



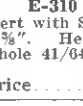
E-282
 Set Screw type. Height
 $\frac{3}{4}$ ". Dia. $29/32$ ". Black
 or Walnut.
 List Price 10c each



E-308
 $\frac{1}{4}$ " Insert with Set Screw.
 Dia. $1\frac{1}{8}$ ". Height $\frac{5}{8}$ ".
 Depth hole $7/16$ ". Black
 only.
 List Price 30c each



E-309
 $\frac{1}{4}$ " Insert with Set Screw.
 Dia. $1\frac{1}{8}$ ". Height $\frac{3}{4}$ ".
 Depth hole $\frac{1}{2}$ ". Black only.
 List Price 40c each



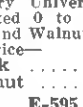
E-310
 $\frac{1}{4}$ " Insert with Set Screw.
 Dia. $2\frac{3}{8}$ ". Height $\frac{7}{8}$ ".
 Depth hole $41/64$ ". Black
 only.
 List Price 50c each



E-599
 $3\frac{1}{2}$ " Ivory Universal Plate
 graduated 0 to 100 to 0.
 Black and Walnut Stocked.
 List Price—
 Black \$0.80
 Walnut85



E-595
 $4\frac{1}{2}$ " Ivory Universal Plate
 graduated 0 to 100 to 0.
 Stop pins supplied as re-
 quired. Size of housing
 $31/32\frac{1}{2} \times 4\frac{1}{2} \times 4\frac{1}{2}$ ". Black
 and Walnut Stocked.
 List Price—
 Black \$0.95
 Walnut 1.00



E-595
 $2\frac{1}{2}$ " Rheostat Dial. Depth
 hole $19/32$ ". $\frac{1}{4}$ " Insert
 with Screw. Graduations
 100 to 0. Black.
 List Price 25c each



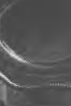
E-82
 $\frac{5}{8}$ " Terminal Nut. $8/32$ "
 Threaded Insert. Black only.
 Packed 100 to a carton.
 List Price 10c each



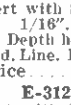
E-6844
 Set Screw, no Insert. Radius
 $13/32$ ". Height $\frac{5}{8}$ ". Depth
 hole $17/32$ ". Black only.
 List Price 15c each



E-283
 Two Tone. Filled in line
 on side. Dia. $\frac{3}{4}$ ". Height
 $17/32$ ". Depth hole $\frac{3}{8}$ ".
 List Price 15c each



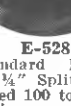
E-311
 $\frac{1}{4}$ " Insert with Set Screw.
 Dia. $2\frac{1}{16}$ ". Height
 $29/32$ ". Depth hole $41/64$ ".
 Filled Ind. Line. Black only.
 List Price 50c each



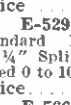
E-312
 No Insert with Set Screw.
 Dia. 3". Height $31/32$ ".
 Depth hole $41/64$ ". Filled
 Ind. Line. Black only.
 List Price 65c each



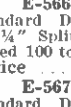
E-321
 Set Screw, no Insert. Filled
 Pointer. Radius $1\frac{1}{16}$ ".
 Height $\frac{5}{8}$ ". Depth hole
 $\frac{1}{2}$ ". Black only.
 List Price 15c each



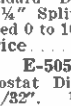
E-528
 $3\frac{1}{2}$ " Standard Dial. 2"
 Knob. $\frac{1}{4}$ " Split Bushing.
 Graduated 100 to 0. Black.
 List Price 40c each



E-529
 $3\frac{1}{2}$ " Standard Dial. 2"
 Knob. $\frac{1}{4}$ " Split Bushing.
 Graduated 0 to 100. Black.
 List Price 40c each



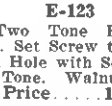
E-566
 $4\frac{1}{2}$ " Standard Dial. 2"
 Knob. $\frac{1}{4}$ " Split Bushing.
 Graduated 100 to 0. Black.
 List Price 45c each



E-567
 $4\frac{1}{2}$ " Standard Dial. 2"
 Knob. $\frac{1}{4}$ " Split Bushing.
 Graduated 0 to 100. Black.
 List Price 45c each



E-110
 $1\frac{1}{8}$ " Two Tone Knob—no
 Skirt—Set Screw type.
 Walnut only.
 List Price 14c each



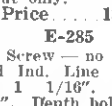
E-123
 $1\frac{1}{8}$ " Two Tone Knob—no
 Skirt. Set Screw type. $\frac{1}{8}$ "
 Plain Hole with Set Screw
 Two Tone. Walnut only.
 List Price 12c each



E-148
 Set Screw type with pro-
 jecting Pointer. Height
 $25/64$ ". Depth of hole
 $19/64$ ". Black or Walnut.
 List Price 10c each



E-284
 Set Screw — no Insert.
 Filled Ind. Line on side.
 Dia. $\frac{3}{8}$ ". Height $33/64$ ".
 Depth hole $\frac{3}{8}$ ". Two Tone.
 Walnut only.
 List Price 18c each



E-285
 Set Screw — no Insert.
 Filled Ind. Line on side.
 Dia. $1\frac{1}{16}$ ". Height
 $39/64$ ". Depth hole $7/16$ ".
 Black or Walnut.
 List Price 14c each



E-321
 Set Screw, no Insert. Filled
 Pointer. Radius $1\frac{1}{16}$ ".
 Height $\frac{5}{8}$ ". Depth hole
 $\frac{1}{2}$ ". Black only.
 List Price 15c each



E-146
 $1\frac{1}{16}$ " Octagon Pyramid
 Top. Set Screw
 type. Walnut only.
 List Price 20c each



JUNIOR
 Junior B (Bakelite)
 Junior C (Composition)
 $\frac{1}{2}$ " Dia. $8/32$ Thread.
 Black only. 100 to a car-
 ton.
 "B"—List Price. 8c ea.
 "C"—List Price. 5c ea.

PLEASE SPECIFY WHETHER BLACK OR WALNUT IS DESIRED

EBY ELECTRIC EYE



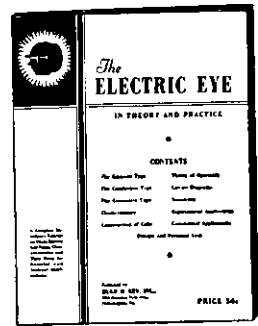
E-12

The Eby Electric Eye is of the photo conductive type. Sensitive to both visible and invisible light. Reacts both to intensity and frequency of incident light rays. Sturdy design and construction. Entirely self-contained in one piece Bakelite casting. Shock proof and moisture proof.

Can be used as a component part in suitable circuits to operate relays, deflect sensitive meters, operate sound reproducing equipment and perform other operations.

RATING AND DATA

Maximum Supply Voltage	250 V.	Overall Length	1.35 inches
Recommended Supply Voltage	125 V.	Outside Diameter	1.25 inches
Maximum Current	200 Microamperes	Socket	Standard Eby 12-A type
Window Area . . . . .	.11 sq. inches		List Price
Maximum Operating Temp. 125 Deg. Fh.		E-12	\$3.50



ELECTRIC EYE BOOKLET

Our booklet, entitled "The Electric Eye in Theory and Practice," contains helpful information on the Electric Eye as well as 30 suggested circuit diagrams for the Eby Electric Eye. List Price Electric Eye Booklet \$0.50

ELECTRIC EYE EXPERIMENTAL KIT

This popular kit, supplied unassembled, contains all parts and accessories for eight (8) complete control circuits.

The kit includes:—

- 1 E-12 Eby Electric Eye.
- 1 ER-12 Eby Sensitive Relay.
- Amplifier tube.
- Tube and Eye Sockets.
- Duplex Potentiometer (400 ohms plus 1,500 ohms).
- Grid Resistor.
- Mica condenser and terminal strip.
- Wire, screws, nuts.
- One mounting base.
- 1—2 MF Electrolytic Capacitor.
- 1—.01 MF Mica Capacitor.
- 2—4 Pr. Sockets.
- 1 Booklet, "The Electric Eye in Theory and Practice."

EK-12 List Price \$13.50

The above is essentially an Experimenter's outfit. For industrial applications or for any continuous operating use, circuits of other types with appropriate apparatus will be recommended by our Engineering Department upon request.



EK-12



Kit After Assembly

EBY SENSITIVE RELAY

Ideal for photo-electric control equipment, vacuum tube amplifier circuits and to protect delicate contacts of sensitive control instruments. Positive action combined with low power requirements.

Unusually high speed response. Designed for direct current and full or half way rectified current for low power control circuits.

Supplied in four (4) different coil resistances, covering most of the operating current and voltages required in sensitive relay control applications. Standard values of coil resistance: 1,000, 2,500, 5,000 and 10,000 ohms. Relay rated at 11.25 milliwatts for positive operation. However, it may be adjusted to operate on as little as 1.25 milliwatts. All relays tested for operation at this latter value before released for shipment.

Mounted as an integral part of the relay, is a single-pole, double-throw switch with sterling silver contacts. These contacts are rated to carry 2.5 amperes at 115 volts, A. C. At 115 volts D. C., 1.5 amperes.

All parts mounted on a molded Bakelite base.

ER-12 List Price \$6.50



ER-12

MODEL 120 — BEGINNER'S UNIT



120

A special NON ADJUSTABLE unit completely wired with relay, amplifying tube and the NEW IMPROVED EBY ELECTRIC EYE. The amplifier tube is transformer coupled thereby eliminating resistors in its filament circuit. Sensitive, sturdy and reliable and will operate from the light beam of a flashlight. No light source is supplied.

List Price complete \$6.00

MODEL 130 — EXPERIMENTER'S UNIT



130

A well balanced unit completely wired with relay, amplifier tube and the NEW IMPROVED EBY ELECTRIC EYE. The amplifier tube is transformer coupled thereby assuring safety, long life and cool operating conditions; a sturdy, reliable and flexible unit that will operate from the light beam of a flashlight and built to stand continuous duty. No light source is supplied.

List Price complete \$8.50

MODEL 140 — ALARM ANNUNCIATOR



140

A special NON ADJUSTABLE unit having a self contained light source with ground and polished lenses and a pleasant single stroke chime in one housing, for store, offices, stations, etc. A mirror is furnished and the EBY Annunciator can be installed by anyone in a few moments.

List Price complete . . . \$25.00

MODEL 150 — HEAVY DUTY UNIVERSAL UNIT

With built-in light source



150

A heavy duty unit with a balanced circuit, assuring quick response and consistent action, and a self contained light source having ground and polished lenses, supplying either visible or invisible light beams. Mirror and external alarm, chime, bell or buzzer, is furnished with the unit. Signal is adjustable for steady or intermittent action. Model 150 is universally adaptable for home, commercial or industrial uses.

List Price complete . . . \$29.50

MODEL 160 — HEAVY DUTY UNIVERSAL UNIT



160

For use with separate light source.

Model 160 has all the specifications of Model 150 except that it requires a separate and independent light source often necessary in industrial and protective work. No light source supplied.

List Price complete \$28.50

MODEL 170 — BURGLAR ALARM



170

A heavy duty unit engineered for protective work but adaptable to universal uses. Alarm is adjustable for steady or intermittent action, steady action being used in protective service. A buzzer, located at a distance if desired, warns if the 115 volt supply source has been disconnected for any reason whatsoever and unit will not go back into service until manually reset. Buzzer is actuated from dry cells contained in the unit. Model 170 requires a separate light source which is not supplied. Circuit is highly balanced and sensitive assuring quick response and consistent action. Alarm bell and buzzer included with the unit. Alarm, in protective service, operates on a one minute time delay.

List Price complete \$42.00

MODEL 180 — HEAVY DUTY LIGHT SOURCE



180

Built for continuous duty with a fine optical system having ground and polished lenses. Supplies both visible and invisible light beams.

List Price complete \$12.50

MODEL 190 — LIGHT SOURCE



190

A light source built as a companion part to our Electric Eye Unit and may be used wherever a medium priced light source is needed. Has ground and polished lenses. Supplies visible light beams only.

List Price complete \$6.00

MODEL 300-301 — ELECTRIC COUNTER



300 & 301

Well housed and protected with non-resettable Veeder-Root counting heads. Model 300 for 6 volt A.C. Model 301 for 115 volt—50-60 cycle A.C.

List Price \$22.50

A COMPLETE UNIT FOR EVERY REQUIREMENT — READY TO PLUG IN AND GO TO WORK

Thank You!

When writing for additional
information or when ordering
from sources of supply listed
in this book, please mention

*RADIO'S MASTER
ENCYCLOPEDIA*

MEISSNER PHONO-RECORDER

COMPLETE PORTABLE UNIT

MAKES FINE RECORDINGS

Powerful magnetic cutter head, operating from output of built-in amplifier, makes perfect records on any size disc up to and including 12" diameter. Has precision made, fool-proof geared cutter drive as described below in connection with Motor Unit. Truly professional in performance!

PROVIDES FAITHFUL REPRODUCTION!

Whether used for "play-back" of records just made, or for electric reproduction of the finest commercial discs, the vivid performance and quality of tone found in this portable instrument will be surpassed by few of the larger fixed installations. Separate crystal pickup, designed for highest quality and maximum record life, insures repeated life-like reproduction of recorded material.

AS AUXILIARY P-A SYSTEM

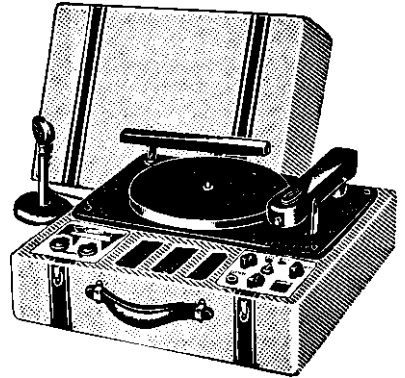
The high-gain, powerful amplifier built into this unit, in connection with the quality crystal mike and sturdy, dynamic speaker make a compact combination, with no set-up whatsoever, for many applications where bulkier equipment would be troublesome to handle.

FINDS MANY APPLICATIONS

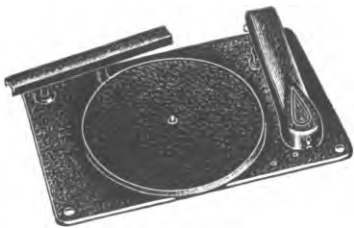
Light in weight, completely portable, entirely self-contained, this new dual-arm Phono-Recorder will find many uses you've never dreamed of. For entertainment use around the home. Its professional design and performance provide a quality superior to average type units sold only for this purpose. In addition, it is well qualified for experimental and instructional use in voice, public-speaking and phonetics classes.

COMPLETE—NOTHING ELSE TO BUY

Built-in amplifier is equipped with full set of tubes; crystal type "hand-or-stand" microphone furnished. Operates directly from any 110-volt, 60-cycle power line; power cord and microphone pack neatly into case; record storage space provided in demountable cover. Complete unit with cover on is only 16" x 17" x 7"; carrying weight (without records) is only 24 pounds. Sturdy wood case, heavy "airplane luggage" finish, durable and attractively modern.



No. 9-1045—Meissner Portable Phono-Recorder, Complete, List Price\$59.50



MOTOR TURNTABLE UNIT ONLY

Entire mechanism of the Complete Phono-Recorder described above, for those who may wish to install it in their own cabinet. Pressed steel motor board is 15" x 10"; entire unit requires only 2½" below mounting surface and 3" above. All metal parts finished in deep brown crystal lacquer; weighted, flock-covered turntable is 9" in diameter; handles any size discs up to 12" diameter.

Constant speed, heavy-duty synchronous motor

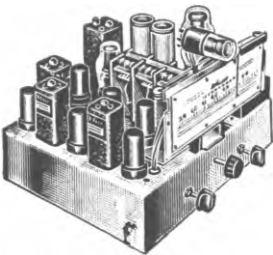
gives positive drive through turntable to accurately machined worm-gear mechanism for operation of recording arm. Uniform cutting of ungrooved acetate blanks is thereby made entirely automatic.

Motor operates directly from 110-volt, 60-cycle power line; crystal pickup is high-impedance type while magnetic cutter head is low impedance, operating from voice-coil secondary of output transformer.

No. 9-1039—Two-Arm Recorder Motor-Turntable Unit Only, List Price\$31.50

MEISSNER F-M RECEIVERS

F-M CHASSIS ONLY



For those who already have a cabinet or who desire to provide one more specially suited to their own requirements. Provides the maximum F-M performance available today! Incorporates 12 tubes, including a dual-shadow tuning indicator and a voltage regulator. A high-gain RF stage provides extra sensitivity while the I-F channel includes two stages plus the limiter. The plate and screen voltages of oscillator tube are fully regulated while a temperature compensating condenser in grid circuit takes care of any minor variations that might occur from this source.

True tonal fidelity is assured throughout the wide-band I-F channel and by the use of a high-grade resistance-coupled audio amplifier. Audio degeneration is used to further improve the output quality. A five-position Tone Control enables listener to select practically any combination of output frequency ranges. A jack in rear of chassis permits use of this receiver as a "converter" to feed input of any high-grade amplifier.

Furnished completely wired, aligned and tested, less tubes and speaker. Requires an 8" P-M Dynamic Speaker with output transformer to match a single 6L6G. Tubes required are: 1—6SA7, 2—6AC7, 2—6SK7, 1—6BR, 1—6C5, 1—6L6G, 1—5U4G, 1—6AF6G, 1—6SR, 1—6SC7 and 1—VR-150. For operation on 110 volts, 50-60 cycles only; complete instructions supplied with chassis.

No. 9-1041—F-M Receiver Chassis, Less tubes and speaker.
List Price\$68.30

CONSOLE MODEL

CABINET—Beautiful, two-tone walnut cabinet, sturdily built, correctly designed for acoustic perfection and superbly finished. Overall height 41 inches, width 30½ inches, depth 15½ inches. Massive—well proportioned!

RECEIVER—Chassis is result of months of pioneer engineering in Meissner Laboratories. This chassis is fully described at left.

CIRCUIT—Incorporates original principles of F-M system as developed by Major Armstrong. A high-gain R-F stage provides efficient signal-frequency amplification; a combined mixer-oscillator tube feeds the 4.3-MC I-F signal into the three-stage I-F amplifier and limiter system; a special diode detector arrangement provides a distortion-free audio signal for the input of the two-stage high-fidelity audio amplifier. Voltage Regulation, AVC and ceramic neutralization—everything to provide maximum stability and dependability!

TUBES—Twelve tubes: one each types 6SA7, 6H6, 6SC7, 6AF6G, 5U4G, 6C5, 6L6G, VR150 and two each types 6SK7 and 1852 (6AC7).

RANGE—Frequency coverage includes full range of Frequency Modulation Band as assigned by Federal Communications Commission, 2 to 50 Megacycles.

POWER OUTPUT—3 watts undistorted audio energy.

POWER CONSUMPTION—110 watts at 117 volts, 60 cycles.

SELECTIVITY—170 KC broad at two times signal.

SENSITIVITY—10 Microvolts, average.

No. 9-1037 — Console Model F-M Receiver, Complete with tubes and speaker.
List Price\$135.00



TABLE MODEL



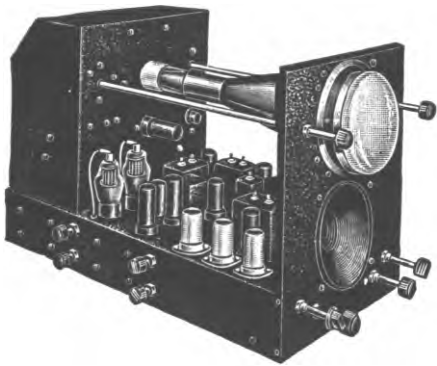
Identical in all respects to Console Model described above with exception of size and shape of cabinet. Two-tone walnut cabinet is 12½" high, 22¾" wide and 11" deep, gracefully proportioned and finely finished.

USE AS CONVERTER—Either the Table or Console Model F-M Receiver described here may be used as a "Converter" in connection with another receiver. Where a large, well-designed receiver with a good audio system is available, the detector output of the F-M Receiver may be fed into the "Phono" or "Television" input terminals or jack on the regular receiver. A special shielded cable is provided for this purpose.

No. 9-1023 — Table Model F-M Receiver, with tubes and speaker.
List Price\$99.25



Meissner Television Receiver Kit



This big 17-tube Television Receiver incorporates the latest design features. Controls are utterly simple—six on front panel and only one of these need be adjusted as set is turned on or off. Four additional controls, which seldom have to be set, are located on the side of the receiver, while two others, used only when the set is first installed or when tubes are changed, are located on the inside rear panel. Sweep and synchronization controls are entirely automatic as is also the "background" control. Designed to receive standard picture signals of either 441- or 507-line definition. In addition to providing perfect reception of the transmitted scene, the accompanying sound channel is also tuned in by the same tuning control! A high-quality 6" dynamic speaker provides excellent reproduction.

SHOCK-PROOF

Every precaution has been taken in the design of this receiver to make it 100% safe, even in the hands of the inexperienced! All high-voltage leads and components are enclosed in a special Safety Compartment which is protected by interlock safety switches. All current is automatically shut off when cover is removed.

ECONOMICAL

The enterprising serviceman and custom set-builder will find this Television Receiver Kit an especially attractive proposition, at the low cost at which it is offered. The bug-bear of "future developments" becomes less menacing for the same reason. Start now to cash in on increasing demands for Television!

EASY TO BUILD—COMPLETE KIT

Even a novice can easily and quickly assemble and wire a Meissner Television Kit! A screwdriver, long-nose pliers and a soldering iron are all the tools necessary. All parts are furnished, except tubes; speaker is included. Tubes required are as follows: 1—6J5, 5—6AC7 (1852), 1—6AB7 (1853), 1—6SQ7, 1—6V6G, 1—6H6, 2—6N7, 2—6F8G, 1—5V4G, 1—879 and 1—1802-P4. Alignment of receiver after it is wired is simple and is readily accomplished with equipment found in any Radio Service Shop. Get the thrill of building it yourself. It's EASY!

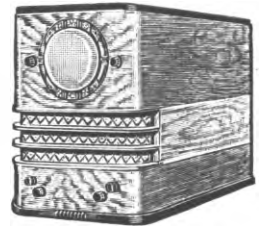
Ready for operation on 110 volts 50-60 cycles, except tubes. Complete Kit includes pre-tuned RF Assembly, I-F Transformers, punched chassis, safety compartment, power transformers, chokes, condensers, sockets, resistors and all hardware.

No. 10-1153—Complete Kit of Parts, Less Tubes.....List Price \$73.75

WALNUT CABINET

Finished in beautiful two-toned walnut veneers with matched butt-grain panels at the front, this table model is really a striking piece of furniture. Strongly built of well seasoned hardwood, joints firmly glued and blocked. Deep piano finish, hand-rubbed. Cabinet is 13" wide, 17" high and 24" deep. All openings ready-cut, fully prepared for immediate installation of receiver.

No. 11-8238..List Price \$20.00



Meissner "Custom" Super Kits

12-TUBE CUSTOM SUPER RECEIVER KIT

The finest all-wave home receiver in the Meissner Kit line—uses twelve latest type tubes, every one performing a vital function and contributing to the unequalled overall performance of this peer of radio receivers!

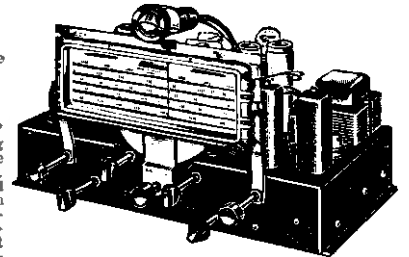
High-gain "television" type tubes are used in the RF section for maximum sensitivity and stability; two-stage I-F channel with electrically-variable band-expanding transformers. Separate bass and treble tone controls permit tonal modification to suit the most fastidious ear; inverse feedback in the output stage eliminates distortion; full 15 watts of distortionless audio energy available at the speaker!

Full frequency coverage between 540 kc and 42 mc in four bands plus an additional Longwave band covering 132 to 405 kc. Phono input jack permits

use of full audio system including tone and volume controls.

COMPLETE KIT

Anyone can build the Meissner 12-tube "Custom" Super with one of these Complete Kits. Everything is furnished, except tubes and speaker, down to the last nut and bolt—includes hook-up wire and solder. The only tools required are a screwdriver, pliers and soldering iron. Detailed instructions supplied with each kit, including famous Meissner Pictorial Wiring Diagram. A good 12" dynamic speaker is recommended, having a 2000-ohm field and output transformer to match 6L6's in push-pull. Tubes required are: 2—6AB7 (1853), 1—6SA7, 2—6K7, 1—6H6, 2—6C5, 2—6L6, 1—5X4G and 1—6G5.

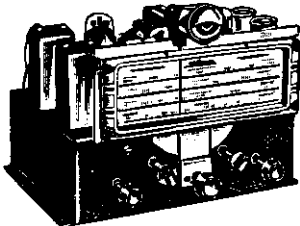


"ESSENTIAL" KIT

In addition to the Complete Kits, Meissner also offers the Essential parts required to build this quality receiver at a considerable saving in cost. "Essential" Kit includes the punched chassis, pre-aligned RF Tuning Assembly, dial, all I-F Transformers, Selectivity Switch and other special parts with complete instructions for assembly and wiring. Detailed Parts List describes other parts required which are all readily obtainable from general stock. No. 12-1028—"Essential" Kit.....List Price \$71.50

- No. 10-1156—12-tube "Custom" Super, Complete Kit less Tubes and Speaker; without panel and cabinet; shipping weight, 25 lbs.....List Price \$99.50
- No. 10-1166—12-tube "Custom" Super, Complete Kit less Tubes and Speaker; with panel and Cabinet; shipping weight, 43 lbs.....List Price \$109.50
- No. 11-8210—Front Panel for 12-tube "Custom", 19 1/4" x 10", black-crackle steel.....List Price \$3.50
- No. 11-8222—Steel Cabinet to match, 19 1/4" x 10" x 11 1/4", black-crackle finish.....List Price \$7.50

9-TUBE CUSTOM SUPER RECEIVER KIT



"Essential" Kit

For those who may have a supply of small parts on hand or who may wish to obtain them separately, this "Essential" Kit is available to provide all of the special Meissner parts required to build this excellent receiver. Contains completely punched steel chassis, pre-aligned RF Coil Assembly, dial, input and output I-F Transformers, and other special small parts with detailed assembly and wiring instructions, schematic and pictorial diagrams, same as supplied with the Complete Kit. Detailed Parts List included.

No. 12-1027—"Essential" Kit.....List Price \$43.00

Second only in performance to the 12-tube "Custom" Super and designed to include most of the quality features of the larger receiver. A considerable reduction in cost has been made possible, however, by judicious use of dual-purpose tubes and simplification of general arrangement of parts. Makes a very excellent replacement chassis for those who have a fine cabinet that they wish to keep or may be used in special Meissner steel cabinet, professionally finished in black crystal lacquer. Everything has been included to obtain maximum possible performance from a receiver of this size! High-gain RF stage on all bands; the four-band pre-aligned RF Coil Assembly provides full coverage from 540 kc to 42 mc. Ferrocart iron-core I-F stage provides maximum selectivity consistent with good tonal quality. Diode second detector with transformer-coupled push-pull output stage; inverse feedback eliminates distortion; 6V6G output tubes

provide full 8 1/2 watts audio energy to the speaker. Phono pick-up jack is provided at input of audio system.

Easy to Build—Complete Kit

The construction of a complete receiver from one of these Complete Kits is extremely simple. The only parts not included are the tubes and speaker. A good 10" or 12" dynamic speaker should be obtained with a field resistance of 800 to 1250 ohms and output transformer to match 6V6's in push-pull. Tubes required are: 2—6AB7 (1853), 1—6SA7, 1—6K7, 1—6F8G, 2—6V6 or 6V6G, 1—6Y4G and 1—6C5. Detailed instructions with schematic and pictorial wiring diagrams are provided. The only tools required are a screwdriver, pliers and soldering iron; final alignment may be readily accomplished with standard service equipment.

- No. 10-1129—9-tube "Custom" Super, Complete Kit less Tubes and Speaker; without Panel and Cabinet; shipping weight, 22 lbs.....List Price \$76.20
- No. 10-1168—9-tube "Custom" Super, Complete Kit less Tubes and Speaker; with Panel and Cabinet; shipping weight, 38 lbs.....List Price \$85.70
- No. 11-8221—Front Panel for 9-tube "Custom", 19 1/4" x 10", black crystal lacquer.....List Price \$3.00
- No. 11-8222—Steel Cabinet to match, 19 1/4" x 10" x 11 1/4", black crystal lacquer.....List Price \$7.50

Meissner

PRECISION BUILDING



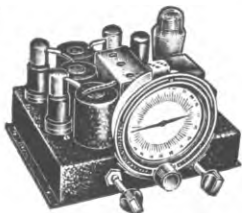
Meissner Receiver Kits

4-TUBE AC-DC T.R.F. KIT



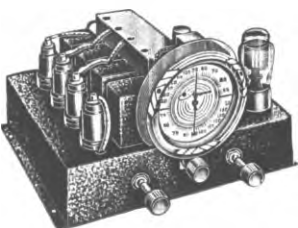
No. 10-1105A—4-Tube AC-DC T.R.F. Kit. List Price \$16.25

5-TUBE AC T.R.F. KIT



No. 10-1106—5-Tube A-C T.R.F. Complete Kit. List Price \$23.50

6-TUBE FERROCART T.R.F. KIT



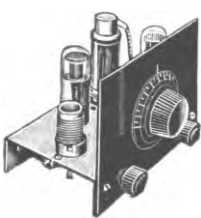
quired having a field resistance of 1500 to 2000 ohms and equipped with an output transformer to match a single 6V6 in Class A.

Complete Kit

Everything is furnished for the construction of this high-grade receiver, except for tubes and speaker. Detailed assembly and wiring instructions are simply written and clearly illustrated. A screwdriver, pliers and soldering iron are the only tools required to do a first class job!

- No. 10-1102—6-Tube Ferrocart T.R.F. Kit, less tubes and speaker. List Price \$36.00
- No. 11-8214—Front Panel for above Kit, Black Crystal finish steel, 10" x 11" List Price \$1.85
- No. 11-8212—Steel Cabinet for above Kit, Black Crystal finish, 10" x 11" x 11", List Price \$4.50

STUDENT "MIDGET" KITS



These Meissner Student "Midget" Kits have been especially designed for use in classrooms where Radio is being taught. Not toys in any sense, but real radio receivers, just as carefully engineered as the large, multi-band Meissner Receivers. The One-Tube receiver may be assembled by the Student or Experimenter and, after he has become thoroughly familiar with its operation, he can make a Two-Tube set out of it—simply by adding the parts included in the first "Add-On" kit. The use of the second "Add-On" Kit will convert the Two-Tube set to a Three-Tube receiver. Latest types of 1½-volt battery operated tubes provide high performance with minimum battery drain. Each Kit supplied with plug-in coil to cover Broadcast Band, 200 to 545 meters; additional coils available to make it a real "all-wave" receiver. All three models have a single large bakelite dial; Regeneration Control is provided on all three and a Volume Control is added when the Three-Tube set is built. All sets are designed for Headphone operation, although the Three-Tube set will operate a small magnetic or P-M dynamic speaker with excellent results.

Absolutely everything required for completion of the set is included. After it is all built it is only necessary to obtain a set of tubes and batteries and a pair of headphones and start listening! Detailed printed instructions are packed with each kit; Pictorial Wiring Diagrams show exactly where each part belongs and how it is connected. The only tools required are a screwdriver, pliers and a small soldering iron. All three sets use a single 1½-volt "A" battery; the One-Tube set uses a single 45-volt "B" battery while the Two- and Three-Tube sets require two 45-volt "B" batteries and one 7½ volt "C" battery. The One-Tube set uses a 1E4G tube; the Two-Tube set adds a 1C5G and the Three-Tube set uses an additional 1H5G tube.

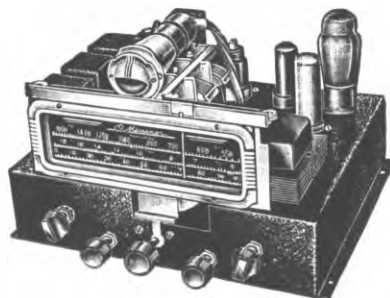
- No. 10-1161—One-Tube Student "Midget" Battery Receiver Kit. List \$5.00
- No. 10-1162—Two-Tube Student "Midget" Battery Receiver Kit. List 6.00
- No. 10-1163—Three-Tube Student "Midget" Battery Receiver Kit. List 7.50

"ADD-ON" KITS

- Contain all parts and instructions necessary to make a Two-Tube set out of a One-Tube or a Three-Tube out of a Two-Tube.
- No. 10-1180—One- to Two-Tube "Midget" Add-On Kit, with instructions. List Price \$1.00
- No. 10-1181—Two- to Three-Tube "Midget" Add-On Kit, with instructions. List Price \$1.85

7-TUBE "UTILITY" SUPER KITS

Four 7-tube "Utility" Super Kits have been designed for the easy construction of receivers having maximum performance for a set of this size. They will, in many cases, outperform sets having a greater number of tubes. Ideal replacement units to modernize old cabinets; all components are of highest quality although the kits are very moderate in price.



Steel cabinets and panels are available for these sets, but are not furnished with kits. Kits also do not include tubes and speaker. An 8" dynamic speaker is recommended, having a field resistance of 1500 to 2000 ohms and equipped with an output transformer to match a single 6V6.

Easy to Build with Complete Kits

Anyone can build one of these fine 7-tube receivers. Complete Kit Includes all parts required for completion of set, except tubes and speaker. Tubes required: 2-6K7, 1-6A8, 1-6Q7, 1-6V6, 1-6G5 and 1-5Y4G. Detailed instructions include famous Meissner Pictorial Wiring Diagrams.

- List Price \$35.20
- No. 10-1103—7-Tube "Utility" Super, Broadcast Model.....
- No. 10-1104—7-Tube "Utility" Super, Broadcast and Short-Wave Model 39.50
- No. 10-1110—7-Tube "Utility" Super, Broadcast, Police and Short-Wave Model..... 43.50
- No. 10-1111—7-Tube "Utility" Super, Broadcast, Long-Wave and Short-Wave..... 43.50
- No. 11-8215—Front Panel for Broadcast Model, 10" x 14", black crystal steel..... 1.85
- No. 11-8217—Front Panel for all other Models, 10" x 14", black crystal steel..... 1.85
- No. 11-8212—Cabinet for all Models, 10" x 11" x 11", black crystal steel..... 4.50

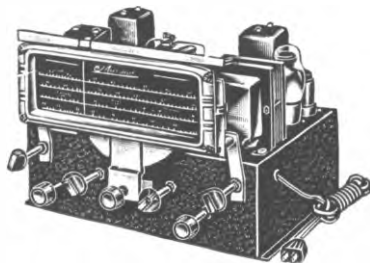
7-Tube Super "Essential" Kits

Include all Antenna, RF and Oscillator coils, I-F Transformers, hand-switch, tuning condenser, dial, padding condensers and other special parts which with same detailed instructions as supplied with regular Complete Kits. All other necessary parts are clearly indicated on Parts List and are readily available from general stock.

- No. 12-1022—Essential Kit for Broadcast Model..... List Price \$16.50
- No. 12-1023—Essential Kit for BC and SW Model..... List Price 24.75
- No. 12-1024—Essential Kit for BC-Pol-SW Model..... List Price 27.50
- No. 12-1025—Essential Kit for BC-LW-SW Model..... List Price 27.50

8-TUBE "COMBINATION" SUPER KIT

A complete kit that builds a real "Combination Receiver"—includes a beat-frequency oscillator for copying CW signals or to help in tuning weak short-wave stations. Frequency coverage begins with Broadcast band and extends down through 10-meter. Amateur band to 7.1 meters! Continuous coverage from 510 kc to 12.3 mc in four bands; coil assembly completely wired with range switch and pre-aligned. Single I-F stage uses Ferrocart iron-core transformers. Diode second detector and high-mu triode first audio, resistance-coupled to single 6V6 output tube. Controls provided include manually operated Sensitivity, Tone and Volume. Tip jacks at rear of chassis provide connections for headphones; AVC-BFO and Stand-by Switches are also incorporated.



In Complete Kit Form

- Complete Kit contains absolutely all parts necessary, except tubes and speaker. Speaker should be an 8" or 10" dynamic with 1500 to 2000-ohm field and output transformer to match a single 6V6. Tubes required: 2-6K7, 1-6J7, 1-6L7, 1-6C5, 1-6Q7, 1-6V6 or 6V6G and 1-5Y4G. Detailed instructions for assembly and wiring include Schematic and Pictorial Wiring Diagrams which show parts clearly in their exact location on chassis, with the ability to handle a soldering iron may easily build this versatile set!
- List Price \$61.25
- No. 10-1116—8-tube "Combination" Super, Complete Kit less Tubes and Speaker; without Panel and Cabinet; shipping weight 24 lbs.....
- No. 10-1164—8-tube "Combination" Super, Complete Kit less Tubes and Speaker; with Panel and Cabinet; shipping weight 40 lbs..... 71.25
- No. 11-8228—Front Panel, Black crystal finish steel, 15" x 10½", punched, 3.50
- No. 11-8229—Cabinet, Black crystal finish steel, 15" x 10½" x 11½" 7.50

8-Tube Super "Essential" Kit

In order to enable the Serviceeman or Custom Set-Builder to construct this receiver at the lowest possible cost, this Essential Kit is offered in addition to the Complete Kits described above. Parts furnished include punched chassis, pre-aligned RF coil assembly, input and output I-F transformers, beat-frequency oscillator transformer, tuning condenser, dial, switches and other special parts. Detailed assembly and wiring instructions with schematic and pictorial wiring diagrams. Remaining parts necessary are available from general stock.

- No. 12-1026—Essential Kit..... List Price \$43.25

ACCESSORIES FOR STUDENT "MIDGETS"

- No. 18-2940—70 to 200 meter Plug-In Coil..... List Price \$0.60
- No. 18-2941—35 to 70 meter Plug-In Coil..... List Price .60
- No. 18-2942—17 to 35 meter Plug-In Coil..... List Price .60
- No. 18-2944—545 to 1500 meter Plug-In Coil..... List Price 1.50
- No. 26-1000—Single Headphone with Band..... List Price 1.50



Meissner P-A Tuners and Test Equipment

HIGH FIDELITY P-A TUNER



Specially designed for highest quality reception from local or semi-distant powerful Broadcast stations. Noise-free T.R.F. circuit with hand-pass transformers provide true "high-fidelity" reproduction; audio response essentially flat from 40 to 10,000 cycles. Four tuned circuits provide ample selectivity; perfected automatic volume control holds output level constant. Tuner regular Broadcast band. Self-powered, operates on 110 volts, 50 to 60 cycles. Available either in Complete Kit form or as a complete wired and tested unit ready to operate. Kit does not include tubes; tubes are furnished with wired unit. Uses 2-6K7, 1-6H6, 1-6F8G and 1-5Z4. Complete Kit includes punched chassis, coils, tuning condenser, dial, power transformer, chokes, resistors, condensers, hardware, wire, solder and other miscellaneous parts. Detailed Instructions with Pictorial Diagrams.

- No. 10-1152—High-Fidelity P-A Tuner Kit, without Panel and Cabinet, Less Tubes, List Price \$41.50
- No. 10-1172—High-Fidelity P-A Tuner Kit, with Panel and Cabinet, Less Tubes, List Price \$46.50
- No. 9-1034—High-Fidelity P-A Tuner, Fully Tested, in Cabinet, With Tubes, List Price \$70.50

"UTILITY" P-A TUNER

A general-purpose Tuner, identical in size and general construction to the High Fidelity model described above except for use of straight tuned radio-frequency circuits without hand-pass coils. Ferrocort, iron-core, coils are used, however, providing an additional degree of sensitivity without material loss in selectivity. Four tuned circuits are employed and this Tuner may be used for distant as well as local reception. Frequency coverage 530 to 1600 kc; calibrated rectangular dial has linear scales $5\frac{1}{2}$ " long. Full automatic volume control. Specially designed filter circuits in power supply keep hum level at absolute minimum. Operates on 110 volts, 50 to 60 cycles. Available either as a completely wired and tested unit, ready to operate, including tubes, or in a complete Kit containing all parts required for construction, less tubes. Tubes used: 3 6K7, 1 6H6, 1 6F8G and 1 5Z4. Detailed instructions and Diagrams.

- No. 10-1119—"Utility" P-A Tuner Kit, without Panel and Cabinet, Less Tubes, List Price \$35.00
- No. 10-1178—"Utility" P-A Tuner Kit, with Panel and Cabinet, Less Tubes, List Price \$40.00
- No. 9-1033—"Utility" P-A Tuner, Fully Tested, in Cabinet, With Tubes, List Price \$64.75

DUAL-BAND P-A TUNER

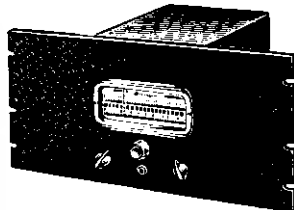


Where distant reception is a necessity or short-wave programs are desired. Covers 540 to 1600 kc and 5.9 to 18.8 mc; sensitive superheterodyne circuit with RF stage on both bands. Uses Ferrocort, iron-core, I-F Transformers for extra gain and selectivity. Incorporates full AVC with diode second detector and dual triode output coupling tube. Output impedance same as High Fidelity model above. Complete unit, ready to operate, is furnished with a full set of tubes; Tuner in Kit form is supplied without tubes. Tubes used: 2 6K7, 1 6K8, 1 6H6, 1 6F8G, 1 6K5 and 1 5Z4.

- No. 10-1151—Dual-Band P-A Tuner Kit, less tubes; without Panel and Cabinet, List Price \$42.00
- No. 10-1171—Dual-Band P-A Tuner Kit, less tubes; with Panel and Cabinet, List Price \$47.25
- No. 9-1035—Dual-Band P-A Tuner, Complete Unit with Tubes, in Cabinet, List Price \$73.30
- No. 11-8243—Front Panel for "Utility" or High-Fidelity Tuner, $8\frac{1}{2}$ " x $8\frac{1}{2}$ ", List Price \$1.25
- No. 11-8200—Cabinet for "Utility" or High-Fidelity Tuner, $8\frac{1}{2}$ " x $8\frac{1}{2}$ " x $12\frac{1}{2}$ ", List Price \$4.75
- No. 11-8236—Front Panel for Dual-Band P-A Tuner, $10\frac{1}{2}$ " x $14\frac{1}{2}$ ", List Price \$1.85
- No. 11-8212—Cabinet for Dual-Band P-A Tuner, black crystal steel, $10\frac{1}{2}$ " x $14\frac{1}{2}$ " x $11\frac{1}{2}$ ", List Price \$4.50

SPECIAL RACK-MOUNTING HI-FI TUNER

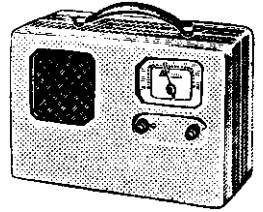
The same High-Fidelity Tuner described at top of page, arranged for rack-panel mounting. In many cases, individual tuners are mounted in a relay rack, with each tuner used to monitor a given station. Rack-panel mounted High-Fidelity P-A Tuners are provided with 500-ohm line coupling transformers, enabling operator to feed output of any tuner to the 500-ohm station bus lines. Special prices available on request covering assemblies of two or more tuners. High-Fidelity P-A Tuners are ideal for installation where a pre-tuned, multi-channel radio system is required. The necessary number of tuners may easily be mounted on a standard relay rack and coupled into individual or a common amplifier line.



- No. 9-1036—Special High-Fidelity P-A Tuner, Completely Wired and Laboratory Tested, mounted on standard relay-rack panel, black crystal finish, $8\frac{1}{2}$ " x $19\frac{1}{2}$ ". Enclosed in steel dust cover, arranged for easy removal. Complete with tubes, List Price \$92.95

AC-DC, BATTERY PORTABLE SUPER KIT

Here's absolutely the latest in a portable radio receiver—a real companion set, always ready in any location, under any circumstances, to bring you whatever is on the air! Covers the regular Broadcast band from 535 to 1600KC. Extremely compact, light in weight, yet contains its own power in the form of dry batteries and its own loop antenna. Equipped also to connect to regular 110-volt power line, either AC or DC, thus offering a valuable saving in battery life. Also provided with connection for external antenna. Supplied in kit form for home construction, its initial cost is the lowest possible for a set of this quality. Uses latest type, low-drain battery operated tubes. Estimated battery life is approximately 70 hours for the "B" and 220 hours for the "A" battery during actual battery operation. The attractively finished, sturdy "airplane-luggage" style case is only $6\frac{1}{2}$ " x $8\frac{1}{2}$ " x $13\frac{1}{4}$ ". Tubes required are one each type 1A7GT, 1H5GT, 3Q5GT, 11Z6GT and two type 1N5GT; tubes are not supplied with kit.



Build It Yourself—

- Anyone can build this remarkable little receiver in a few hours—only tools required are pliers, screwdriver and soldering iron! Full instructions and Pictorial Diagrams. All parts are furnished (except tubes and batteries) including punched chassis, coils, sockets, resistors, condensers, dial, tuning condenser, speaker, etc. Loop antenna is ready built. Two $\frac{1}{2}$ -volt "A" batteries, and two 45-volt "B" batteries are required.
- No. 10-1190—Complete Kit for AC-DC, Battery Portable Super, less tubes, batteries and cabinet, List Price \$35.00
- No. 10-1189—Complete Kit for AC-DC, Battery Portable Super, including cabinet; less tubes and batteries, List Price \$41.00
- No. 11-8257—Portable Cabinet, $6\frac{1}{2}$ " x $8\frac{1}{2}$ " x $13\frac{1}{4}$ ", finished in brown airplane-luggage canvas, List Price \$7.00

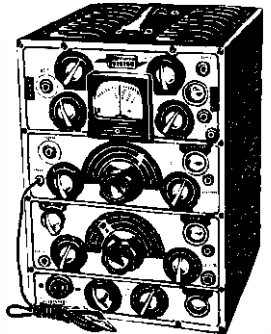
"Essential" Kit

- Contains all "special" parts such as tuning condenser, dial, punched chassis, coils, I-F transformers and loop antenna. All other parts such as fixed condensers, resistors, sockets, speaker, etc. are readily obtainable from general stock. Complete detailed instructions and diagrams with parts list also furnished. Here's your chance to build a really fine, fully engineered portable receiver at very low cost!
- No. 12-1031—Essential Kit, List Price \$23.25

NEW MEISSNER "ANALYST"

THE MODERN SERVICE INSTRUMENT

Undoubtedly the most modern complete servicing instrument on the present day market. Handles the receivers of yesterday, today and tomorrow — with equal efficiency and facility! Entirely fundamental in its testing procedure. Will never become obsolete. **SAVES TIME — SAVES MONEY**—The use of the new Meissner ANALYST will not only permit you to make more money by handling a greater number of service jobs in a given time but it will give you additional assurance that these jobs will "stay sold." **SERVICES BY "SIGNAL TRACING"**—The new Meissner ANALYST tests receivers and locates faults by the "signal tracing" method — proven to be the fastest and most reliable method known at the present time. It is NOT, however, just another signal tracer! It is completely equipped with all devices that might be needed to make simultaneous checks on various parts of the receiver circuit. Five separate and distinct "channels" provide as many different functions; all controls are accurately calibrated with functions clearly indicated.



Complete—Ready to Go to Work

- The new Meissner ANALYST is completely wired, aligned and laboratory tested. Furnished complete with a full set of 12 tubes, it is all ready to be put into service the minute it is unpacked and connected to the 110-volt line! No alignment or adjustments are necessary—just read the instructions, hook it up and go to work!
- Complete Book of Instructions, supplied with the new Meissner ANALYST, gives detailed directions for use of this instrument in locating all kinds of radio troubles.
- No. 1-9441—Analyst Instruction Book, Net Price \$0.25
- No. 9-1040—New Meissner ANALYST, complete with tubes, prods, and Instruction Book; ready to operate, Net Price \$87.50

SIGNAL CALIBRATOR

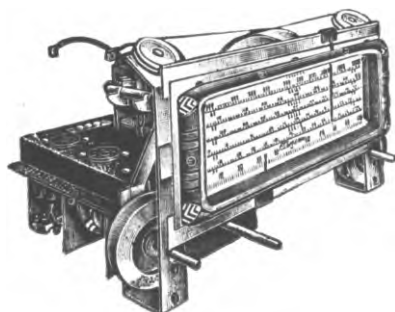
The nearest to a primary frequency standard that can be built at a moderate price. Employs a very accurate 100-ke quartz crystal to control the initial oscillator and uses two sets of multi-vibrators to give frequencies of 50 kc and 10 kc. Better than a Signal Generator as it gives accurately known test signals, modulated or unmodulated, in 100-ke, 50 ke or 10-ke divisions throughout the entire range from 100 kc to 60 mc! Has attenuator for controlling output and adjustable modulation control. Push-button selector switch determines frequency steps. Black crystal finish steel cabinet is $8\frac{1}{2}$ " x $8\frac{1}{2}$ " x $12\frac{1}{2}$ ". Operates directly from 110-volt, 60-cycle power lines; uses 2 6AC7, 2 6N7G, 1 6K8, 1 6X6 and 1 6X5G tubes.

- No. 9-1006—Signal Calibrator, Complete with Tubes, Ready to Operate, Net Price \$39.90



Meissner Tuning Units, F-M Parts, R-F Coils

ALL-WAVE TUNING UNITS



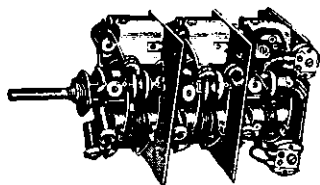
"Communications" type has five frequency-calibrated scales; additional 0-100 scale at bottom for band-spread pointer. Uses dual-control bandspread dial (23-8229) and ceramic-insulated tuning condenser (21-5143B). Incorporates coil assembly No. 13-7617 described below. Used in Meissner "Traffic Master." "Custom" type employs a single-speed corner dial mechanism (23-8230) with five frequency calibrated scales. Uses three-gang tuning condenser (21-5141B) and coil assembly No. 13-7610, described below. Used in Meissner "Custom 12." Each unit includes complete RF, Mixer and Oscillator coils for all bands; shielded band switch. Align-Aire trimmers, tube sockets and associated resistors, condensers, etc., in addition to parts listed above. Entire assembly mounted on black crackle-finished steel chassis, 8 1/2" long and 5" wide, ready to be dropped into place. Just 7 connections to make to feed into any 456 kc. I.F. channel, including plate and heater leads.

Communications Tuning Unit, 5-bands, 540 kc to 31.6 mc; uses 1853 (6AB7), 6K8 and 6J7G tubes. Completely wired, aligned and tested for sensitivity. Detailed instructions. **List Price**\$57.50

"Custom" Broadcast Tuning Unit, 5-bands, 133 kc to 42 mc; uses two 1853 (6AB7) and one 6SA7 tubes. Furnished with complete instructions; wired, aligned and fully tested.

No. 13-7611—Less tubes. **List Price**\$48.50

MULTI-WAVE COIL ASSEMBLIES



For use in construction of All-Wave receivers. Contain coils, range-switch, shunt trimmers, series padders, AVC by-pass condensers and all necessary shielding. Provides high-gain RF stage on all bands; complete primary and secondary switching on all coils. Align-Aire (air-dielectric) trimmers on all bands assure minimum frequency drift; extremely short leadwires—all coils except 133-406 kc range are soldered directly to switch terminals. All units are compact, approximately 1" x 5" x 8"; have simple three-point mounting. Factory-wired, tested, aligned and padded. Complete instructions and diagrams.

For 410-Mmf Condenser

No. 13-7610—5 Band Assembly, Tuning Ranges: 537 to 1754 kc, 1.68 to 5.96 mc, 5.85 to 18.2 mc, 17.6 to 42.0 mc and 133 to 406 kc. **List Price**, \$29.50

No. 13-7612—1-Band Assembly, Tuning Ranges: 537 to 175 1/2 kc, 1.68 to 5.96 mc, 5.85 to 18.2 mc, and 17.6 to 42.0 mc. **List Price**.....\$25.50

For 280-Mmf Condenser

No. 13-7617—5-Band Assembly, Tuning Ranges: 540 to 1580 kc, 1.5 to 4.5 mc, 4.1 to 12.2 mc, 7.3 to 18.6 mc, and 11.2 to 31.6 mc. **List Price**, \$29.50

No. 13-7605—4-Band Assembly, Tuning Ranges: 1.5 to 4.5 mc, 4.1 to 12.2 mc, 7.3 to 18.6 mc, and 11.2 to 31.6 mc. **List Price**\$25.50

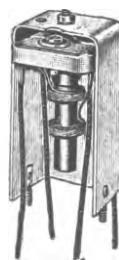
FREQUENCY MODULATION COMPONENTS

4.3-MC I-F Transformer

Specifically designed for F-M receivers. Has wide-band, narrow-skirt, flat-top characteristic, necessary for perfect performance. Molded plastic coil form; coils treated to prevent temperature and humidity variation. High-grade Meissner ceramic-base trimmer. Mounted in 1 1/2" square by 3" aluminum shield. Color-coded leads.

No. 16-6664

List Price\$1.75

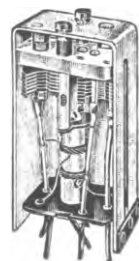


Discriminator Transformer

The real "heart" of the F-M receiver. Uses two air-dielectric variable trimmer condensers; "busbar" wires connect trimmer terminals to soldering lugs on bakelite base. Coils universal wound and fully protected. Unit is mounted in aluminum shield can, 1 1/2" by 1 1/2" by 4" high. Designed for use in 4.3-MC I-F Channel with 6AC7 limiter tube and 6H6 second detector. Diagrams and instructions.

No. 17-3482

List Price\$6.00



F-M Tuning Assembly

Complete "front-end" for any F-M Receiver! Covers 42 to 50 MC; designed for use with F-M Dial below and to feed into 4.3-MC I-F system. Incorporates all components for antenna, mixer-oscillator and voltage regulator, wired, tested and aligned. Three-gang special tuning condenser mounts on top of compact unit; fits chassis opening 3 1/2" x 7"; only 2 3/4" below chassis. Only five wires to connect to I-F channel and power supply. Detailed instructions and wiring diagram.

No. 13-7621—Complete 42—50 MC Tuning Assembly. **List Price**\$17.50

7" F-M Dial

Used in all Meissner F-M Receivers. Specially calibrated for the 42 to 50 megacycle F-M Band. Fits 3/8" condenser shaft; tuning ratio is eleven to one in 180 degrees. Dual dial lights; white translucent scale. Drill gold escutcheon, 3 3/4" x 8 1/2" wide.

No. 23-8234—**List Price**\$5.50

ANTENNA AND R.F. COILS

Standard Antenna—R.F. Coils

Designed to cover Broadcast band 545 to 1580 kc (190 to 550 meters) with a 365-mmf. tuning condenser. Make excellent replacement units and are also used as original parts. All coils have high impedance primaries, wound with Litz wire, fully protected against humidity. Shielded coils are in black crackle-finished non-magnetic cans, 1 1/2" diameter by 2 1/2" high.

No.	Type	List
14-1010	Standard Antenna Coil	\$0.70
14-1011	Standard R. F. Coil	.70

No.	Type	List
14-1004	Standard Antenna Coil	.90
14-1005	Standard R. F. Coil	.90

Compact Antenna and R.F. Coils

For use where space is at a premium. Cover regular Broadcast band, 545 to 1580 kc (190 to 550 meters), with a 365-mmf. tuning condenser. Ideal for compact midget or auto radio sets. Have high-impedance primary windings with Litz wire "progressive-universal" secondaries. Windings impregnated for moisture protection and wound on 3/8" diameter forms, 1 1/2" long. Black crackle shields are 1 1/2" diameter, 3" high.

No.	Type	List
14-1022	Unshielded Ant. Coil	\$0.45
14-1023	Unshielded R. F. Coil	.45
14-1024	Shielded Ant. Coil	.60
14-1025	Shielded R. F. Coil	.60

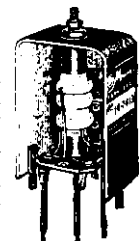
Airplane Coils

Designed to provide highest possible efficiency for reception on Weather-Aircraft Band. Special windings thoroughly impregnated. Antenna Coil is provided with a "Tertiary Winding," serving as a low-impedance primary for use with a loop or other type of special aircraft antenna. Normal high-impedance primary is also provided for usual antenna-ground connection. These coils are designed for use with a 365-mmf. tuning condenser and cover the restricted range of 195 to 410 kc. An adjustable padder, No. 22-7008, must be used with the oscillator coil. Compactness and efficiency make these coils also very suitable for use in adding a "Long-Wave" band. Shield cans are only 1 1/2" diameter and 1 1/2" high, black crackle finish. No trimmers supplied.

No.	Type	List
14-1030	Airplane Antenna Coil	\$2.75
14-1031	Airplane Mixer Coil	2.00
14-1032	Airplane Oscillator Coil	2.00

Universal-Adjustable Coils

These Adjustable-Inductance Ferrocart (iron-core) coils will replace the Broadcast band coils in practically any receiver. Continuously variable in inductance over a wide range. Exact inductance of old coil is easily matched by a simple screw-driver adjustment. Oscillator coil provides complete adjustment for intermediate frequencies between 175 and 520 kc. Complete instructions. Shields are black crackle finish, 1 1/2" square by 2 1/2" high.

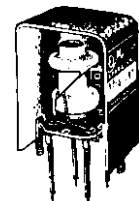


No.	Description	List
14-1026	Universal Ant. Coil	\$1.25
14-1027	Universal R. F. Coil	1.25
14-1028	Universal Osc. Coil	1.25

No.	Description	List
14-7413	Universal Ant. Coil	2.00
14-7558	Universal R. F. Coil	2.00
14-7560	Universal Osc. Coil	2.00

Ferrocart Antenna—R.F. Coils

Recommended for use in any circuit where highest quality components are required. Two types of R.F. coils are provided; a high-gain unit for use as the detector coil in single or multi-stage R.F. amplifiers, and a lower-gain coil for use in the intermediate stages of a multi-stage R.F. amplifier. Designed to cover the Broadcast band from 540 to 1600 kc with a 365-mmf. tuning condenser. Will perform well with any of standard types of R.F. amplifier tubes, and the battery-operated 1.4-volt and 2-volt series. Proper coupling capacity provides uniform sensitivity. Mounted in black crackle-finish shields, 1 1/2" square by 2 1/2" high.



No.	Type	List
14-1496	Hi-imp. Pri. Ant. Coil	\$1.75
14-1497	Detector R. F. Coil	1.75
14-7860	Interstage R. F. Coil	1.75



Meissner Coils — Noise Filters

MIDGET ANT. AND R. F. COILS

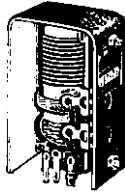


Entirely new design. Specially built for compact T.R.F. Super-Hot and Auto Radio receivers. Wound on 1/2" bakelite form. Four bank windings with Litz wire. High impedance primaries. Shield cans 1 3/8" x 1 3/8" x 2". Spade bolt mountings. Cover 190 to 530 meters with 365 mmf. condenser.

No. 14-2436—Antenna Coil
No. 14-2437—R. F. Coil
List Price\$1.00

DUAL AND 3-BAND COILS

Same as used in MEISSNER Kits; will give utmost in performance and stability. Each band wound on same bakelite coil-form, 3/4" dia. Two mica-dielectric trimmers mounted in cans of shielded coils. All coils designed to be used with a 365 mmf. variable condenser and for operation with a 456 kc. I-F channel. Wound on bakelite forms 2 3/4" long. Shielded coils in cans 1 3/4" x 1 3/4" x 3". Broadcast-and-Police coils cover 530 to 1550 kc and 1.5 to 4.43 kc. Broadcast-and-Short-Wave coils covers 530 to 1660 kc and 5.8 to 19 mc.



Broadcast and Police Coils

Shielded		Unshielded	
No.	Description	No.	Description
14-7467	—Antenna Coil	14-7482	—Antenna Coil
14-7471	—R.F. Coil	14-7483	—R.F. Coil
14-7475	—Oscillator	14-7484	—Oscillator
List Price .....\$2.70		List Price .....\$1.85	
22-5204—Padding Condenser Kit for above coils. List Price .....\$1.25			
24-8265—3-gang 2-position Switch. List .....1.50			

Broadcast and Short-Wave Coils

Shielded		Unshielded	
No.	Description	No.	Description
14-7476	—Antenna Coil	14-7477	—Antenna Coil
14-7478	—R.F. Coil	14-7479	—R.F. Coil
14-7480	—Oscillator	14-7481	—Oscillator
List Price .....\$2.70		List Price .....\$1.85	
NET .....\$1.62			
22-5203—Padding Condenser Kit for above coils. List Price .....\$1.25			
24-8265—3-gang 2-position Switch. List .....1.50			

3-Band

Similar to above, but offered only in shielded types, with trimmers built in. Broadcast-Police-Short-Wave coils are for use with a 450 mmf. condenser and cover 540 to 1770 kc, 1.75 to 5.35 mc, 5.2 to 18.5 mc. Long-Wave-Broadcast-Short-Wave coils are for use with a 365 mmf. condenser and cover 136 to 370 kc, 530 to 1580 kc, 5.8 to 18.6 mc. All coils mounted in shield cans 1 3/4" x 1 3/4" x 4 1/4", and are designed for use with a 456 kc. I-F channel.

Broadcast, Police and Short-Wave Coils

No.	Description	List Price
14-1012	—Shielded Antenna Coil	\$3.50
14-1013	—Shielded R.F. Coil	3.50
14-1014	—Shielded Oscillator	3.50
22-5201	—Padding Condenser Kit	1.25
24-8264	—3-gang 3-position Switch	2.00

Long Wave, Broadcast and Short-Wave Coils

No.	Description	List Price
14-1015	—Shielded Antenna Coil	\$3.50
14-1016	—Shielded R.F. Coil	3.50
14-1017	—Shielded Oscillator	3.50
22-5202	—Padding Condenser Kit	1.50
24-8264	—3-gang 3-position Switch	2.00

DEALER COIL ASSORTMENT

Here's an opportunity for the wide-awake Dealer-Serviceman to obtain a complete representative stock of coils. I-F Transformers, and other parts at a money-saving value! Contains one each of the following numbers: 14-1022, 14-1023, 14-1024, 14-1025, 14-1026, 14-1027, 14-1028, 14-4034, 16-5712, 16-5714, 16-8600, 16-6601, 16-8658, 16-6660, 19-2078, 22-5255, and 15-8048. Also included is a copy of the latest Meissner Instruction Manual and a new General Catalog. Total retail value \$16.60!

List Price\$14.15

OSCILLATOR COILS

For the Broadcast band—130 to 550 meters. Tune with 365 mmf TRF type condenser. Will operate in all types of oscillator circuits.

Mounted on special bakelite base, with tinned soldering lugs. Unshielded coils mount by means of screw in one end of dowel. Shielded coils are in cans 1 1/2" diameter, 1 3/4" high, with spade bolt mountings. Proper value padder condensers must be used.



Shielded

No.	Int. Freq.	Padder	List Price
14-4242	175 kc	900 mmf.	\$0.95
14-4243	156 kc	350 mmf.	.95

Unshielded

No.	Int. Freq.	Padder	List Price
14-3732	175 kc	900 mmf.	\$0.75
14-6590	262 kc	686 mmf.	.75
14-6592	370 kc	500 mmf.	.75
14-4034	456 kc	350 mmf.	.75
14-1033	Special Unshielded Osec. for 6SA7	350 mmf.	.75

PHONO-OSCILLATOR COIL

Designed for the constructor and experimenter in building either wireless or direct-connected phonograph-oscillator units for record reproduction through the radio receiver. May be incorporated in the receiver or with the record-player. Knob adjustment permits selection of clear frequency in the broadcast band. Coil is in black crackle shield, 1 3/4" square by 3 1/4" high. Full instructions.

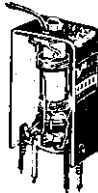
No. 17-9373—List Price\$2.00



PRESELECTOR COIL

Increases the selectivity of any Broadcast receiver not having an R. F. stage—without adding any tubes! Three separate windings, a primary and two tuned secondaries. Covers regular Broadcast band, 545 to 1580 kc, with a 365-mmfd. tuning condenser. Rigidly mounted in black-crackle-finished shield, 1 3/4" square, 3" high.

No. 14-6787—List Price\$2.00

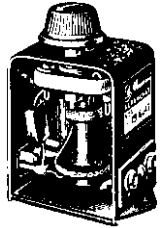


INTERFERENCE FILTERS

DE LUXE DUAL UNIVERSAL WAVE TRAP

Tunes 400-475 to eliminate code signals, etc., entering receiving at intermediate frequency. Also tunes 550 to 1950 kc for interfering signals in Broadcast and low-frequency Police bands. Knob makes adjustment easy. Has Perrocant (iron core) for greater efficiency.

No. 15-8048
List Price\$2.65



Dual Broadcast Model: a two-section trap designed for maximum efficiency on Broadcast band only, 550 to 1950 kc.

No. 15-8478—List Price\$2.65

DUAL AMATEUR BAND WAVE TRAP

Eliminates interference simultaneously from either 40 and 80, or 40 and 160 meter bands. Similar in construction to above dual unit, but without knob. Has screwdriver adjustment for both bands. Tunes 1.5 to 7.5 mc.

No. 15-8148—List Price\$2.65

STANDARD SINGLE WAVE TRAPS

Each traps designed for a specific frequency coverage; has screwdriver adjustment for easy setting to interfering signal. Air core design.

- No. 15-8479—For range 400 to 700 kc.
- No. 15-8480—For range 650 to 1000 kc.
- No. 15-8481—For range 950 to 1600 kc.
- No. 15-8485—160 Meter and Police Band.
- No. 15-8484—80 Meter Band.
- No. 15-8483—40 Meter Band.
- No. 15-8482—20 Meter Band.

Any Model—List Price\$1.25

456 I.F. WAVE TRAPS

Eliminate I.F. interference caused by code signals, etc.

- No. 15-7518—Fully shielded. List Price\$0.90
- No. 15-8486—Similar to above, but unshielded. List Price\$0.65

DE LUXE LINE NOISE FILTER



For elimination of electrical interference entering receiver by means of power line. May be connected either to interfering device or to radio. For 110 or 220 volts, AC or DC; 200 watts maximum load. In black crackle case, 2" x 2" x 5".

No. 15-7519—List Price\$4.00

10-KC AUDIO FILTER

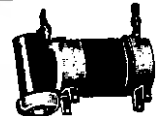
Eliminates the 10-kc squeals and whistles which spoil high-fidelity reproduction of programs. Two tuned filter circuits provide maximum attenuation of the 10-kc audio note. Complete instructions and diagrams. Operates with any of standard power output tubes—current carrying capacity 75 ma. Coils universal wound and fully protected. Accurately pre-tuned and mounted in black crackle-finished shield, 1 3/4" square by 2 3/4" high. Color-coded lead wires, spade lug mountings on shield.



No. 15-7520—List Price\$3.50

INDIVIDUAL ALL-WAVE COILS

The same high-grade antenna, R. F. and oscillator coils used in the Multi-Wave coil assemblies. Separately available for use in making up special combinations for any type of receiver. "Align-Aire" trimmer mounted on each coil; long-wave coils are shielded. Oscillators designed for 456-kc I-F.



For Use With 410 MMF Condensers

Frequency Coverage	Antenna Coil No.	R. F. Coil No.	Oscillator Coil No.	List Price	Padding Condenser	List Price
133-406 KC	14-7686	14-7688	14-7680	\$1.75	22-8037	\$0.40
537-1754 KC	14-7682	14-7684	14-7682	1.25	22-8029	.40
1.68-5.06 MC	14-7644	14-7646	14-7670	1.25	22-5134	.45
5.8-18.2 MC	14-7674	14-7672		1.25		

For Use With 280 MMF Condensers

Frequency Coverage	Antenna Coil No.	R. F. Coil No.	Oscillator Coil No.	List Price	Padding Condenser	List Price
540-1580 KC	14-7921	14-7920	14-7922	1.25	22-7961	.40
1.5-4.5 MC	14-7942	14-7940	14-7938	1.25	22-7733	.40
4.1-12.2 MC	14-7990	14-7992	14-7994	1.25	22-7731	.40
7.3-18.8 MC	14-7674	14-7672	14-1021	1.25	22-4137	.45
11.2-31.6 MC	14-1018	14-1019	14-1020	1.25	22-4137	.45

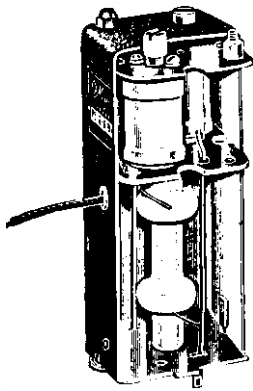
*Complete with padding condenser.

† Fixed mica padding condenser plus or minus 3%.



Meissner I-F Transformers

"ALIGN-AIRE" I-F TRANSFORMERS



There is no substitute for Meissner Align-Aire I-F Transformers. They are absolutely the finest that money can buy. They are unexcelled in stability, unaffected by humidity changes, non-microphonic and dustproof. They are the result of years of engineering experience in designing high-grade units for the finest commercial receivers. They are absolutely stable under any conditions of temperature and humidity; are not affected in adjustment by vibration. Instead of the 180 degree rotation of the trimmer adjustment usually found in air-tuned transformers, the Align-Aire unit has 3600 degrees of micrometer-smooth tuning, substantially linear. Accurate adjustment can thus be most readily obtained. Available in either standard "Air-Core" construction, where maximum gain and selectivity are not vital requirements, or in the deservedly famous "Ferrocort Iron-Core" type which should be used when the utmost in selectivity and sensitivity are desired. Both types are double-tuned and are offered in a complete range of frequencies with wide individual coverage. Black crackle shields are 2" x 2" x 1 3/4".

AIR CORE

Cat. No.	Frequency Range(kc)	Peak Factory Setting	Gain Factory Setting	Selectivity Band Width			Use
				2x	10x	20x	
16-6630	158-195	175	100	6.8	16.8	23.5	Input
16-5979	158-195	175	27	5.9	13.6	19.2	Interstage
16-6632	158-195	175	110	8.2	23.6	34.5	Output
16-6634	233-305	262	52	6.5	17.0	24.5	Input
16-5971	233-305	262	19	7.0	18.9	25.0	Interstage
16-6636	233-305	262	100	9.0	28.5	41.0	Output
16-6638	338-443	370	52	6.5	16.0	23.0	Input
16-6011	338-443	370	18	7.0	18.0	25.0	Interstage
16-6640	338-443	370	100	10.0	26.0	39.5	Output
16-6642	415-540	456	50	7.0	18.3	25.2	Input
16-6129	415-540	456	19	6.5	15.0	22.0	Interstage
16-8090	1325-1750	1500	27	17.6	46.3	68.7	Input Interstage
16-8098	1325-1750	1500	35	24.0	46.3	92.5	Output
16-8102	1325-1750	1500	35	25.0	48.0	95.0	Output C.T.
16-6243	2500-3300	3000	37	50.0	120.0	190.0	Input Interstage

Align-Aire Air-Core Transformers, List Each \$4.50

FERROCART (Iron Core)

Cat. No.	Frequency Range(kc)	Peak Factory Setting	Gain Factory Setting	Selectivity Band Width			Use
				2x	10x	20x	
16-6631	155-195	175	125	5.5	13.0	18.5	Input
16-5977	155-195	175	28	6.5	13.0	18.0	Interstage
16-6633	155-195	175	150	7.3	22.3	32.8	Output
16-5967	233-305	262	29	6.0	17.0	22.5	Interstage
16-6637	233-305	262	110	7.5	23.5	36.0	Output
16-6639	338-443	370	72	4.5	11.5	17.5	Input
16-5993	338-443	370	30	6.5	17.5	24.0	Interstage
16-6641	338-443	370	120	8.0	22.5	33.5	Output
16-6643	415-540	456	77	7.0	16.0	22.0	Input
16-6123	415-540	456	29	7.0	18.9	24.1	Interstage
16-6645	415-540	456	105	9.0	25.6	36.2	Output
16-6139	415-540	456	100	9.5	23.2	33.5	Output C.T.
16-8089	1325-1750	1500	40	14.4	38.4	54.5	Input Interstage
16-8097	1325-1750	1500	35	19.2	48.0	73.5	Output
16-8101	1325-1750	1500	35	20.0	50.0	75.0	Output C.T.
16-6241	2500-3300	3000	43	40.0	120.0	170.0	Output

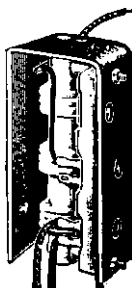
Align-Aire Iron-Core Transformers, List Each \$5.00

TRIPLE-TUNED I-F TRANSFORMERS

Especially designed for high-fidelity superhets, these transformers provide flat-top resonance characteristics with narrow, steep-sided skirts. Accordingly, they deliver the ultimate in tonal quality since there is no cutting of "side-bands." Triple-pl universal windings are used to provide high gain. Provided with side-adjusted ceramic-base trimmers. Mounted in black crackle-finish shield cans, 2" square by 3" high. Coded lead wires.

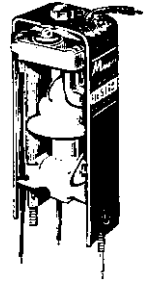
Cat. No.	Frequency Range	Peak Fact. Set.	Gain Fact. Set.	Selectivity Band Width			Use
				2x	10x	20x	
16-6858	360-480	456	49.0	9.8	18.1	23.9	Input
16-6860	360-480	456	71.5	16.6	29.4	38.7	Output

List Price, Each \$3.00



"FERROCART" I-F TRANSFORMERS

Since their introduction several years ago, these remarkable units have been rapidly increasing in popularity. Designed primarily as original parts in high-gain receivers of superior quality, these transformers find consistent application in stepping up the performance of old receivers. The special powdered-iron "Ferrocort" core permits higher "Q" with resultant increase in selectivity and gain. The selection of frequency ranges provides material for a wide range of designs in new receiver construction while also permitting almost universal application for replacement use. All units are double-tuned with ceramic-base, mica-dielectric trimmers. Windings are of high-grade Litz wire, thoroughly impregnated. Shield is black crackle finish, 1 1/2" square by 3 1/2" high.



Cat. No.	Frequency Range(kc)	Peak Factory Setting	Gain Factory Setting	Selectivity Band Width			Use
				2x	10x	20x	
16-5728	127-206	175	89	5.5	13.0	20.3	Input
16-5981	143-320	175	19	3.5	9.0	13.0	Interstage
16-5750	127-206	175	89	7.8	22.2	33.2	Output
16-5732	200-345	262	68	5.4	13.6	20.4	Input
16-5734	200-345	262	59	7.5	23.0	35.0	Output
16-5740	360-600	456	50.0	7.3	17.6	25.0	Input
16-6131	360-600	456	23.2	6.9	13.3	18.3	Interstage
16-5742	360-600	456	80.0	10.8	26.5	38.7	Output
16-6211	360-600	456	77.0	9.3	24.0	33.3	Output C.T.
16-8091	1950-2000	1500	30	16	34.4	59.3	Input Interstage
16-8699	1950-2000	1500	47	19.1	52.7	89.0	Output
16-6253	2300-3700	3000	50.0	70	140	210.0	Input Interstage
16-6257	2300-3700	3000	40.0	61	116	224	Output

Ferrocort Iron-Core I-F Transformers, List Each \$2.00

"STANDARD" I-F TRANSFORMERS

The Meissner series of Air-Core I-F Transformers has been accepted as "standard" for general replacement purposes. Gain characteristics have been designed to correspond closely with average values found in the majority of commercial receivers. Input and output units are high gain, for use in single-stage amplifiers; interstage units have low gain to prevent oscillation in two-stage amplifiers. Selectivity figures in table indicate shape of resonance curve. All transformers are double-tuned, with ceramic-base, mica-dielectric trimmers. Windings of high-grade Litz wire are fully impregnated. Well-insulated RMA color-coded lead wires. Black crackle-finish shield is 1 1/2" square by 3 1/2" high.



Cat. No.	Frequency Range(kc)	Peak Factory Setting	Gain Factory Setting	Selectivity Band Width			Use
				2x	10x	20x	
16-5700	121-235	175	70.0	8.2	17.5	27.5	Input
16-5983	121-235	175	17.0	6.4	14.4	20.5	Interstage
16-5702	121-235	175	70.0	9.5	26.3	41.0	Output
16-3731	121-235	175	75.0	7.8	21.5	32.4	Output C.T.
16-5704	220-360	262	43.4	7.1	20.7	31.1	Input
16-5691	215-340	262	15.0	6.0	17.0	24.0	Interstage
16-5706	190-325	262	72.0	15.3	46.2	68.2	Output
16-5003	190-325	262	90	15.0	41.8	66.7	Output C.T.
16-5708	275-480	370	33	13.5	32.0	47.5	Input
16-6059	275-480	370	22.7	9.4	24.7	35.3	Interstage
16-5710	275-480	370	80.0	17.5	47.7	72.0	Output
16-6091	275-480	370	61.0	13.5	37.8	55.8	Output C.T.
16-5712	425-650	456	50.0	11.7	31.3	45.6	Input
16-6133	435-1000	456	21.3	9.8	25.5	36.8	Interstage
16-5714	425-650	456	70	16.6	43.0	65.7	Output
16-3736	255-350	456	50	15.2	36.7	55.8	Output C.T.
16-8092	1950-2000	1500	21.5	17.5	51.2	73.5	Input Interstage
16-8100	1950-2000	1500	40.0	24.0	65.5	97.5	Output
16-8104	1950-2000	1500	40.0	24.0	65.5	97.5	Output C.T.
16-4250	2000-4000	3000	16.6	17.6	54.8	49.6	Input Interstage
16-4261	2000-4000	3000	23.3	18.0	39.0	7.0	Output

Standard Air-Core I-F Transformers, List Each \$1.50

"CARTWHEEL" I-F TRANSFORMERS

A brand new, ultra-compact, unshielded I-F Transformer, complete with dual trimmers; finds useful application in many types of compact AC-DC or Midget type receivers. Also useful as a replacement unit in the many sets using odd shapes and locations for their I-F Transformers. Only 1 1/2" by 1 1/2" by 1 1/4" high; one-piece molded plastic trimmer base; for 456 kc only.



No. 16-6661—List Price \$1.00

Meissner

PRECISION ELECTRONICS

MILLER QUALITY PRODUCTS Miller MILLER QUALITY PRODUCTS

RADIO PRODUCTS



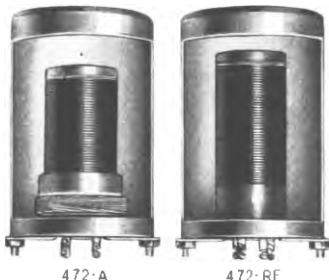
242-A 242-RF

Bank-Wound Litz Coils

For the designer or custom set builder who desires to employ the finest coils available, the bank-wound series coils are admirably suited.

Particular care has been taken in the design of these coils to produce the most efficient winding for use at broadcast frequencies. The coils are wound with Litzendraht wire in a two-layer bank, using a bakelite form as the winding base. Every precaution is taken to produce an excellent coil of consistently uniform quality, and with this end in view constant inspection during manufacturing and a final test upon completion assures the customer of a coil of unsurpassed quality. The RF coils provide uniform amplification over the broadcast band by the use of a combination of inductive and capacitive coupling in the primary circuit. Supplied with shields $1\frac{1}{8}$ " x 3". For use with a .000365 mfd. variable condenser to cover the band from 540 to 1600 KC.

	List Price
No. 242-A Antenna Coil	\$.90
No. 242-BP Band-Pass Coil .....	.75
No. 242-RF RF Coil .....	.90
No. 277 Oscillator Coil (Available for all frequencies).....	.75



472-A 472-RF

Threaded Solenoid Coils

High impedance coupled type antenna and RF coils wound with solid enameled wire on threaded bakelite tubing. Coupling turns are provided to prevent loss of energy at the high frequencies and to properly phase the antenna with the grid circuit. The RF coil primaries are also duo-lateral wound but are placed inside the secondary and are designed to match the impedance of the modern screen grid tubes. Adaptable for any TRF or super-heterodyne receiver. Supplied with shield $2\frac{1}{8}$ " x $3\frac{1}{2}$ " long. For use with .000365 mfd. variable condenser to cover the band from 540 to 1600 KC.

	List Price
No. 472-A Antenna Coil	\$.85
No. 472-RF RF Coil .....	.85
No. 472-BP Band-Pass Coil .....	.80

Untuned RF Coil

To be used in wide range TRF receivers and diode detector circuits. Maximum gain is obtained at the low frequency end of the band. Frequency range 540-1700 KC. Complete with aluminum shield $1\frac{1}{8}$ " x $2\frac{1}{2}$ " long.

	List Price
No. 472-UT Untuned RF Coil.....	\$1.50



277-477

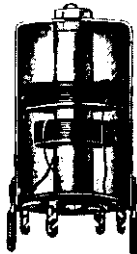
Solenoid Oscillator Coils

These oscillator coils are designed for use with pentagrid converter tubes or the 6L7 mixer. The 277 series is particularly designed for use with the No. 242 antenna and RF coils, while the 477 type are recommended for use with the 472 type coils. However, these units will track with any of our standard coils when the proper oscillator padding condenser is incorporated in the circuit. All the above coils are available for use with any of the popular intermediate frequency amplifiers and may be obtained for use either shielded or unshielded. However, it is important that you specify whether the shielded or unshielded coil is desired upon ordering. If no specifications are given, the shielded type coil will be shipped. The shielded coils are supplied with the proper shields as listed below:

277 Type.....	$1\frac{1}{8}$ " x 3"	Shield
477 Type.....	$2\frac{1}{8}$ " x $3\frac{1}{2}$ "	Shield

For use with standard .000365 mfd. variable condenser to cover the band from 540 to 1600 KC. Available for use with the following intermediate frequency amplifiers.

	List Price	
	Shielded	Unshielded
277 Series		
No. 277-M for $132\frac{1}{2}$ KC.....	\$.75	\$.50
Requires .0016 mfd. Series Pad.		
No. 277-K for 175 KC.....	.75	.50
Requires .001 mfd. Series Pad.		
No. 277-H for $262\frac{1}{2}$ KC.....	.75	.50
Requires .0006 mfd. Series Pad.		
No. 277-C for 465 KC.....	.75	.50
Requires .0004 mfd. Series Pad.		
477 Series		
No. 477-M for $132\frac{1}{2}$ KC.....	\$.85	\$.50
Requires .0016 mfd. Series Pad.		
No. 477-K for 175 KC.....	.85	.50
Requires .001 mfd. Series Pad.		
No. 477-H for $262\frac{1}{2}$ KC.....	.85	.50
Requires .0006 mfd. Series Pad.		
No. 477-C for 465 KC.....	.85	.50
Requires .0004 mfd. Series Pad.		



High Frequency Interrupter Coil

The ideal coil for super-regenerative 5 and 10 meter receivers. Carefully designed and tested to give the correct interrupter frequency. Assembled in aluminum shield $1\frac{1}{4}$ " dia. x 2" long.

	List Price
No. 313 Interrupter Coil.....	\$1.00

Untuned Antenna Coil

Designed for use in high fidelity TRF and midget receivers. Antenna is connected through series condenser of approximately 100 uuf. to tap near ground end of coil. Complete with aluminum shield $1\frac{1}{8}$ " diameter x $2\frac{1}{2}$ " long.

	List Price
No. 472-UA—Untuned Antenna Coil....	\$1.25



No. EL-58 10 KC Filter

(For Hi-Fidelity Receivers)

A shielded filter designed to eliminate the 10 KC whistle present in wide range broadcast receivers. It is a resonant filter to be used in the plate circuit of a triode A.F. amplifier or the diode load circuit. The attenuation to 10,000 cycles is approximately 30 db. The filter consists of a high inductance iron core winding shunted by a variable trimmer condenser operating at approximately 85 uuf. The No. EL-58 filter is assembled in an aluminum shield $1\frac{1}{2}$ " square x $2\frac{1}{2}$ " long provided with spade bolts for mounting. This is an essential part for your high fidelity receiver.

	List Price
No. EL-58 10 KC Filter.....	\$2.25



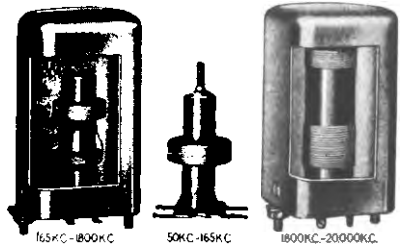
EL-56

Negative Mutual Coupling Coils

These coils were designed for use in band-pass circuits of wide range receivers. They may also be used for high fidelity monitors and air-check receivers as well as for the general high fidelity broadcast receiver. They are identical with those supplied with our No. EL-570 coil kit and may be used with either the 242 or 472 type RF coils.

The coils are bifilar wound on a $\frac{7}{8}$ " diameter x $1\frac{1}{4}$ " long bakelite form, which is provided with two "L" brackets for mounting. They are sold complete with an aluminum shield $1\frac{1}{8}$ " diameter x 2" long.

	List Price
No. EL-56—Negative Mutual Coupling Coil	\$.75



Test Oscillator Coils

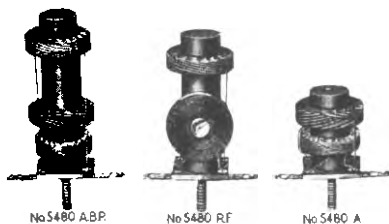
Model 550 Test Oscillator Coils are for use in an electron coupled oscillator circuit of the high "C" type using a standard 2-gang variable condenser with the sections connected in parallel except for the highest frequency range. The frequency range is from 50 KC to 20,000 KC in five bands. Higher frequencies may be obtained by using the second harmonic.

	List Price
No. T-550 Test Oscillator Coils (Per Set)	\$3.75

MILLER QUALITY PRODUCTS

Miller

RADIO PRODUCTS



No. 5480 ABP No. 5480 RF No. 5480 A

Duo-Lateral Wound Coils

When the space for mounting coils is restricted yet efficiency must not be sacrificed, the No. 5480 type coil is recommended. Secondaries are duo-lateral wound with multi-strand Litzendraht wire upon a 1/2" diameter dowel, offering the most efficient type of winding of any coil of equal size. Supplied in all types including an antenna-band-pass consisting of an antenna primary and secondary and an additional secondary inductively coupled, providing a complete pre-selector stage in one unit. Photographs are approximately one-third the actual size.

The 5480 series oscillator coils are recommended for use with these coils. For use with a .000365 mfd. variable condenser to cover the band from 540 to 1600 KC.

No. 5480-A	Antenna Coil	.....	\$ .70
No. 5480-ABP	Ant.-Band-Pass Coil	.....	1.00
No. 5480-RF	RF Coil	.....	.80

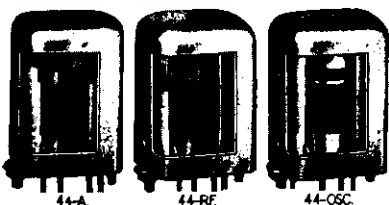


No. 5480 OSC.

No. 5480 Duo-Lateral Oscillator Coils

The following oscillator coils are designed for use with the 2A7, 6A7, 6A8, 6L7-6C5 type oscillator circuits and are available for use with any of the popular intermediate frequency amplifiers. They may be employed with any of our RF or antenna coils. The photograph is approximately one-third actual size. For use unshielded with .000365 mfd. variable condenser to cover the band from 540 to 1600 KC. Available for the following intermediate frequencies:

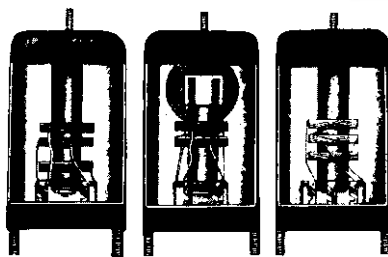
No. 5480-K for 175 KC.	Requires .001 mfd. Series Pad.	.....	\$ .60
No. 5480-H for 262 1/2 KC.	Requires .0006 mfd. Series Pad.	.....	.60
No. 5480-C for 465 KC.	Requires .0004 mfd. Series Pad.	.....	.60



Four Bank Litz Coils

The Series 44 four-bank Litz wound broadcast band coils are especially recommended for use in auto receivers where a coil of maximum gain and small physical size is required. They may also be used in any broadcast band receiver. The RF coils are of the high impedance primary constant gain type. These coils are designed to be used with the standard .000365 mfd. variable condenser. The coils are supplied with aluminum shields 1 1/2" square x 2 1/2" long. Spade bolts are riveted to the shield for mounting to the chassis. Frequency range 540 to 1700 KC.

No. 44-A	Antenna Coil	.....	List Price \$.85
No. 44-RF	RF Coil	.....	.85
No. 44-BP	Band-Pass Coil	.....	.75
No. 44-C	Oscillator Coil	.....	.75
		(465 KC I.F. — .0004 Pad.)	
No. 44-H	Oscillator Coil	.....	.75
		(262 KC I.F. — .0006 Pad.)	

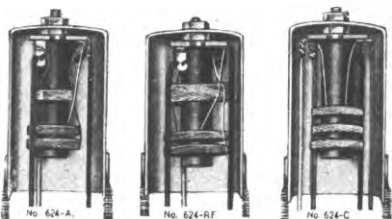


No. 73 Universal Replacement Coils

(535-1700 KC)

To meet the long felt need of the serviceman and experimenter we have developed a series of compact iron core variable inductance broadcast band RF transformers. By means of the adjustable iron core, the inductance may be adjusted for use with any variable condenser whose maximum capacity is between 250 and 410 uuf. The oscillator coil may be adjusted for use with any intermediate frequency amplifier between 100 and 550 KC. May be used as replacement coils for almost all receivers and for experimental work. Save time and give better service by keeping a stock of these coils on hand at all times. The coils are housed in black Kem-Art finished aluminum shields. Dimensions 1 1/2" square x 2 1/2" long, spade bolt mounting center 1 7/16". Complete instructions included with each coil.

No. 73-A	Universal Antenna Coil	.....	List Price \$2.00
No. 73-RF	Universal RF Coil	.....	2.00
No. 73-O	Universal Oscillator Coil	.....	2.00

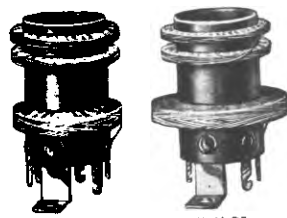


No. 624 Iron Core RF Coils

540 to 1700 KC

The No. 624 Series iron core coils are especially desirable for use in auto and other receivers where a high Q coil of small physical size is required. The secondaries are wound on Miller iron cores and No. 15/41 Litz wire is used. All coils are assembled in aluminum shields 1 1/4" x 2" long. Provided with spade bolts for mounting, 1 1/8" centers. For use with .000365 ufd. variable condenser. List Price

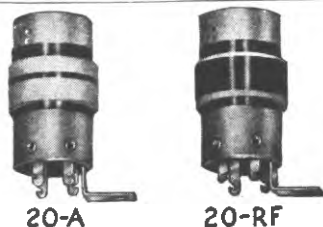
No. 624-A	Antenna Coil	.....	\$1.50
No. 624-RF	RF Coil	.....	1.50
No. 624-C	Oscillator Coil	.....	1.50
		(Requires .0004 series pad.)	
No. 624-H	Oscillator Coil	.....	1.50
		(Requires .0006 series pad.)	
No. 624-K	Oscillator Coil	.....	1.50
		(Requires .001 series pad.)	



High-Gain Midget Coils

We believe the Miller type 42 coils to be the finest available for TRF receivers where it is desired to use unshielded coils. They are particularly designed for the popular 4-tube midget TRF receivers and will give performance comparable to many four and five tube superheterodynes. They provide uniform high gain and sensitivity throughout the entire broadcast band. The antenna coil is adjusted to give maximum results when using the short indoor aerials generally used with this type of receiver. These coils use high impedance type coupling and are duo-lateral wound on 7/8" dia. x 1 1/2" long bakelite tubing. The secondaries are wound very narrow to reduce distributed capacity and to decrease RF resistance. To further reduce RF resistance, No. 15/41 silk covered Litz wire is used in the secondaries. The primaries are designed to work efficiently with the pentode type of RF tubes. The coils are for use with the standard .000365 mfd. variable condenser to cover the band from 540 to 1600 KC.

No. 42-A	Antenna Coil	.....	List Price \$.70
No. 42-RF	RF Coil	.....	.70



Midget Type Solenoid Coils on Cardboard Forms

Pictured above are our No. 20 Antenna and RF coils, which are universally accepted as the standard of comparison in 4-tube TRF receivers. Wound with enameled wire on an especially impregnated Kraft tubing form, they offer a very inexpensive and efficient coil for use in receivers of this type where cost must be held to an absolute minimum. Both the antenna coupler and RF coil are of the transformer type, the primaries being wound on slip-over forms allowing easy adjustment of the coupling. The RF primaries have sufficient inductance to work efficiently with modern tubes. For use unshielded with .000365 mfd. variable condenser to cover the band from 550 to 1750 KC.

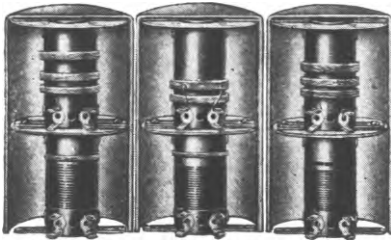
No. 20-A	Antenna Coil	.....	List Price \$.35
No. 20-RF	RF Coil	.....	.35
Tapped for 2400 KC Police			
No. 20-T-A	Antenna Coil	.....	.40
No. 20-T-RF	RF Coils	.....	.40

Peter Pan Type Coils

We can also supply coils in which the primary coupling is very tight, providing maximum gain at all frequencies. This is the same identical coil as used in the thousands of Peter Pan receivers marketed during the past few years.

No. PP-A	Peter Pan Antenna Coil	.....	List Price \$.40
No. PP-RF	Peter Pan RF Coil	.....	.40

Miller RADIO PRODUCTS



ALL WAVE COILS Miller "Select-Ur-Band" Coils

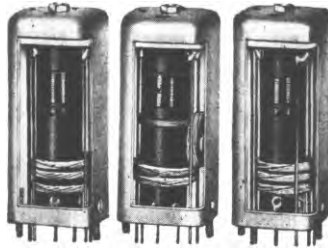
A new series and type of coil designed to meet the exacting demands of the experimenter and custom set builder for a high quality receiver covering one or more bands and using one or more RF stages or only a mixer stage. The Miller No. 727 "Select-Ur-Band" Coils are truly flexible in their application and may be assembled to suit your individual requirements. For a superheterodyne they are for use with a 465 KC intermediate frequency amplifier. Each coil of each band is a separate unit and all are so designed that any pair may be assembled in a single shield. All coils are wound on 7/8" dia. x 1 3/4" long bakelite tubing and are of correct form factor and of proper wire size to give maximum efficiency. The primaries are of the high impedance type designed for us with pentode type RF tubes. The use of the new Miller "Select-Ur-Band" Coils enables the experimenter or constructor to modernize old receivers by utilizing the 465 KC intermediate frequency amplifier and audio on the old receiver and installing an all wave or skip-band tuner.

The range of the individual bands is as follows:

Cat.	KC	Meters	Series	Osc.
X X-727	140-425	2100-700	.00012	uf.
A A-727	535-1500	560-200	.0004	uf.
B B-727	1500-4500	200-67	.001	uf.
C C-727	3750-11,000	80-27	.003	uf.
D D-727	8500-23,000	35-13	.01	uf.
E E-727	12,500-36,000	24-8	none	
S S-727	5800-19,000	51-16	.003	uf.

Any two coils may be assembled—easily, using only a screw driver—to provide the bands required in a single coil shield and, of course, groups of two bands each may be used. Coils are not furnished assembled in shields.

Cat. No.	Purpose	List Price
BAND X		
X-727 A	—Antenna Coil	\$1.25
X-727 RF	—RF Coil	1.25
X-727 C	—Oscillator Coil—465 KC-I.F.	1.25
BAND A		
A-727 A	—Antenna Coil	1.00
A-727 RF	—RF Coil	1.00
A-727 C	—Oscillator Coil—465 KC-I.F.	1.00
BAND B		
B-727 A	—Antenna Coil	1.00
B-727 RF	—RF Coil	1.00
B-727 C	—Oscillator Coil—465 KC-I.F.	1.00
BAND C		
C-727 A	—Antenna Coil	1.00
C-727 RF	—RF Coil	1.00
C-727 C	—Oscillator Coil—465 KC-I.F.	1.00
BAND D		
D-727 A	—Antenna Coil	1.00
D-727 RF	—RF Coil	1.00
D-727 C	—Oscillator Coil—465 KC-I.F.	1.00
BAND E		
E-727 A	—Antenna Coil	1.00
E-727 RF	—RF Coil	1.00
E-727 C	—Oscillator Coil—465 KC-I.F.	1.00
BAND S		
S-727 A	—Antenna	1.00
S-727 RF	—RF Coil	1.00
S-727 C	—Oscillator Coil—465 KC-I.F.	1.00
COIL SHIELDS		
L-727 2 1/16" Dia. x 4" Long		\$.40
S-727 2 1/16" Dia. x 2 1/2" Long		.25



Two-Band Coils

The ideal coil for the constructor who wishes to build an inexpensive 2-band receiver covering both the standard broadcast band and either of two short wave bands.

The coils are wound on high grade bakelite tubing 3/4" in diameter and are approximately 3 1/4" long. Assembled in shields 1 3/8" sq. by 3 1/2" with trimmer condensers. The broadcast band coils are sectional duo-lateral wound and the short wave coils are solenoid wound. The coils are for use with a standard .000365 mfd. variable condenser. For 465 KC I.F.

Frequency range
540-1500 and 1500-4500 K.C.

	List Price
No. 3996-A 2-band Antenna Coil.....	\$2.50
No. 3996-RF2-band RF Coil.....	2.50
No. 3996-C 2-band Oscillator Coil.....	2.50
Oscillator Series Pad Condensers	
Broadcast band.....	.0004 mfd.
Short wave band.....	.001

Frequency Range
540-1500 and 5500-18000 KC

	List Price
No. 3997-A 2-band Antenna Coil.....	\$2.50
No. 3997-RF2-band RF Coil.....	2.50
No. 3997-C 2-band Oscillator Coil.....	2.50
Oscillator Series Pad Condensers	
Broadcast band.....	.0004 mfd.
Short wave band.....	.01

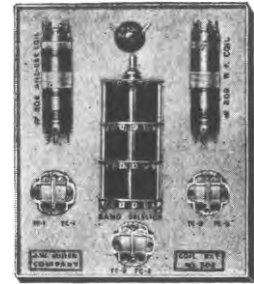


Three Band Short Wave Coils

(12 to 200 Meters.)

These coils are identical with those used in our No. 511 and No. 302 coil kits. The oscillator coil is designed for use with a 465 KC I.F. amplifier. Three separate coils are wound on a single high-grade bakelite form and the spacing between coils is great enough to prevent dead spots and excessive absorption effects. While not designed to be shielded, they may be used with partitions between coils providing that clearance of at least one inch from the partition or chassis to the coil is maintained. When used with a .000365 mfd. variable condenser the three bands are: 12 to 35 meters—35 to 75 meters—75 to 200 meters.

	List Price
No. 511-SW-ANT Antenna Coil	\$1.75
No. 511-SW-RF RF Coil	1.75
No. 511-SW-OSC Oscillator Coil	1.75



No. 302 Short Wave Pre-Selector Coil Kit

The Miller No. 302 Pre-Selector Coil Kit enables you to construct a highly efficient unit using two stages of tuned radio frequency amplification to be used ahead of any short-wave or all-wave receiver. The Miller Pre-Selector will give a tremendous increase in sensitivity, and it will actually bring in stations which you are now unable to receive with your present set. By increasing the signal voltage to the mixer tube of superheterodyne type receivers, the pre-selector will materially reduce background noise when receiving weak stations. Regardless of the number of tubes or the type of receiver you are now using, the Miller Pre-Selector will positively bring in more DX reception. Provision has been made for the incorporation of coils for the broadcast band.

A self-contained power supply and an extra position on the band switch for shunting directly to the receiver are among the many conveniences offered by the new Miller Pre-Selector. Complete detailed data may be yours for the asking.

	List Price
The Miller No. 302 Pre-Selector Coil Kit contains the following parts	
1 No. 302 S.W. Antenna (12 to 200 Meters)	\$1.75
1 No. 302 S.W. RF Coil (12 to 200 Meters)	1.75
1 No. 302 Output Choke Coil	.50
1 No. 605 Band Selector Switch	2.40
3 No. 35 Dual Trimmer Condensers (@ .50)	1.50
1 Blue Print and Complete Instruction Data	.25
Miller No. 302 Pre-Selector Coil Kit.	
List Price	\$8.00



Complete Pre-Selector

The Miller No. 302 Pre-Selector described above is also available completely wired and factory tested, housed in an attractive metal cabinet with airplane type dial. Complete with tubes and power supply. If you would prefer to buy your equipment "tailor-made," here is a real opportunity.

	List Price
Model 302 Pre-Selector Complete—12 to 200 Meters.....	\$40.00
Model 302 Pre-Selector Complete—12 to 540 Meters.....	44.00
Model 302 Pre-Selector Complete—8 to 200 Meters.....	44.00

Miller

RADIO PRODUCTS



No. 711 All-Wave Superheterodyne Coil Kit

12 to 550 Meters

Many new features are to be found in this design, including the use of high impedance coupled antenna coils on the short-wave and broadcast bands.

If you have deferred the purchase of an All-Wave Kit because you have felt that construction of such a receiver would be too difficult or you have perhaps been prejudiced by the performance claims of cheap, inferior kits, using only three or four tubes in what is essentially a makeshift circuit, you need wait no longer. Just follow the simple, easy instructions included in the Miller No. 711 kit and you will be amazed at the remarkable performance of this all-wave receiver, which has been carefully designed and thoroughly tested to give the ultimate in short-wave reception.

The receiver you build, whether for yourself or for a customer, must be good, and such a receiver is easily constructed with the new, improved Miller Model 711 All-Wave Superheterodyne Coil Kit.

Additional information will gladly be supplied upon request. The following items are supplied in the Miller No. 711 Coil Kit:

- | | |
|------------------------------------|-------------------|
| | List Price |
| 1 B.C. Antenna Coil No. 711-A | \$.80 |
| 1 B.C. Translocator Coil No. 711-A | 1.75 |
| 1 75-200 Meter S.W. Coil No. 711-B | 1.25 |
| 1 35-75 Meter S.W. Coil No. 711-C | 1.50 |
| 1 12-35 Meter S.W. Coil No. 711-D | 1.25 |
| 1 Input I.F. No. 711-1 | 1.60 |
| 1 Interstage I.F. No. 711-2 | 1.60 |
| 1 Output Stage I.F. No. 711-3 | 1.60 |
| 2 Dual Trimmers No. 35 (@ 50) | 1.00 |
| 4 Accurate Osc. Pad. Condensers | 1.35 |
| 1 Rectifier Plate Choke No. 80-F | 1.00 |
| 1 Osc. Coup. Condenser No. C-14 | .20 |
| 1 Band Selector Switch No. 404 | 1.60 |
| 1 Blue Print | .25 |

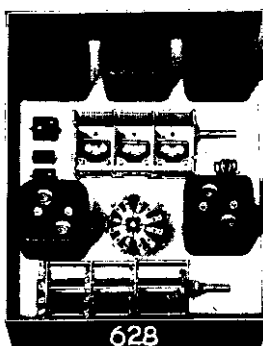
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| | List Price |
| Miller No. 711 All-Wave Kit | \$18.00 |
| Miller No. 711-B for 2 Volt Battery | 16.00 |
| Miller No. 711-M for Metal Tubes | 16.00 |

No. 724 7-Tube Superheterodyne Coil Kit

540 to 1600 KC

The signal frequency coils are of Litz bank-wound construction offering a most selective coil for use at broadcast frequencies. The two stage intermediate frequency amplifier is extremely selective and provides for a sensitivity of approximately one microvolt per meter in the completed receiver. All coils and I.F. transformers in this kit are supplied in shields 1 7/8" diameter x 3" long and are for 175 KC. Kit contains the following parts:

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|-------------------------------------|-------------------|
| | List Price |
| 1 No. 242-A Antenna Coil | \$.90 |
| 1 No. 242-RF RF Coil | .90 |
| 1 No. 242-K Oscillator Coil | .75 |
| 1 No. 412-K-1 Input I.F. | 1.60 |
| 1 No. 412-K-2 Interstage I.F. | 1.60 |
| 1 No. 412-K-4 Half Wave Output I.F. | 1.60 |
| 1 .001 3% Mica Padding Condenser | .25 |
- Miller No. 724 7-Tube Superheterodyne Coil Kit \$7.50

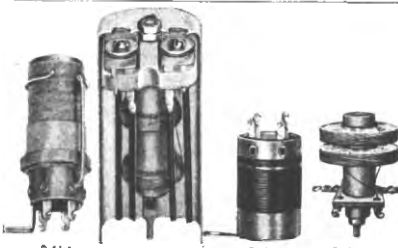


AIRCRAFT RADIO COIL KIT No. 628

A coil kit designed for constructing a highly efficient and compact 3-band receiver to meet the needs of the private flyer. Frequency range—140/425 KC—540/1600 KC—2.5/7.0 MC. 3-band signal frequency coils are assembled in 2" square by 4 1/4" long aluminum shields with built in high frequency trimmers. The antenna coil primaries are of the low impedance type for use with the short aircraft antenna. A single stage of iron-core air-tuned 465 KC I.F. is used. All windings are fully protected by a baked glyptal coating. The kit consists of the following parts:

- | | |
|--|-------------------|
| | List Price |
| 1 No. 628-A 3-Band Ant. Coil | \$ 4.00 |
| 1 No. 628-RF 3-Band R.F. Coil | 4.00 |
| 1 No. 628-C 3-Band Osc. Coil | 4.00 |
| 1 No. 1112-C-2 Input I.F. | 5.50 |
| 1 No. 1112-C-4 Output I.F. | 5.50 |
| 1 No. 605 Band Switch | 2.40 |
| 1 No. 402 Switch | 1.00 |
| 1 No. 2103 3-Gang Var. Cond. | 3.75 |
| 1 .00012 3% Tol. Osc. Pad Cond. | .25 |
| 1 .0004 3% Tol. Osc. Pad Cond. | .25 |
| 1 .0016 3% Tol. Osc. Pad Cond. | .25 |
| 1 Circuit Diagram and Chassis Layout Print | .25 |

No. 628 COIL KIT. LIST PRICE \$31.00
(parts may be purchased separately)

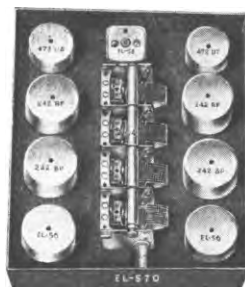


No. 582 Five Tube Economy Superheterodyne Coil Kit

(540 to 1700 KC.)

This coil kit may be utilized to construct a very economical and efficient five tube superheterodyne using the autodyne type oscillator circuit. The standard double-tuned shielded I.F. transformer for the input stage and an untuned self-resonant I.F. transformer coil for the output stage provide maximum gain and selectivity. The intermediate frequency amplifier operates at 465 KC.

- The kit consists of the following parts:
- | | |
|--------------------------------------|-------------------|
| | List Price |
| 1 No. 241-A Antenna Coil | \$.70 |
| 1 No. 582-C Oscillator Coil | .25 |
| 1 No. 512-C-2 Input I.F. Transformer | 1.25 |
| 1 No. 582-UT Output I.F. Transformer | .75 |
| 1 .0004 3% Mica Padding Condenser | .25 |
| 1 No. 582 Blue Print | .25 |
- Miller No. 582 Economy Super Coil Kit, List Price \$3.25



No. EL-570 HIGH FIDELITY TUNER COIL KIT

The new Miller EL-570 High Fidelity Coil Kit is without doubt the finest set of coils available for constructing a true fidelity RF tuner. In order to obtain the lowest possible inherent set noise level, a tuned radio frequency circuit has been employed rather than the more commonly used superheterodyne. The circuit arrangement is as follows: An untuned antenna coil, two stages of negative mutual coupled band-pass circuits followed by an untuned RF coil feeding the detector tube. A 10 KC audio whistle filter is included with the kit and is to be used in the detector load circuit to prevent heterodyning from adjacent channels. Included with the kit is a 4-gang condenser of the latest bar type low minimum capacity construction.

The over-all RF circuit has a flat top response curve of between 20 and 23 KC. Due to the construction of the RF band-pass coils, which have an exceptionally high Q, the sides of the response curve are quite steep. The curve is approximately 32 KC wide at a voltage input ten times the resonant input.

This coil kit is particularly recommended for constructing a tuner to be used in making high quality air check recordings and for the discriminating experimenter.

Complete constructional data is available on request for the construction of either a tuner or the entire receiver, which uses fixed bias 2A3's in the output stage. The frequency range of the coils is from 540 to 1600 KC.

- | | |
|---|-------------------|
| | List Price |
| 1 No. 472-UA Untuned Antenna Coil | \$1.25 |
| 2 No. 242-RF Bank-Wound RF Coils | 1.80 |
| 2 No. 242-BP Bank Wound Band-Pass Coils @ .75 | 1.50 |
| 1 No. 472-UT Untuned Detector Coil | 1.50 |
| 2 EL-56 Negative Mutual Coupling Coils @ .75 | 1.50 |
| 1 EL-58 10 KC Audio Filter | 2.25 |
| 1 No. 2104 4-Gang Variable Condenser | 5.00 |
| 1 EL-570 Circuit Diagram Blue Print | .25 |
| And Data Sheets | |

List Price
Miller No. EL-570 High Fidelity Coil Kit \$15.00

No. 924 9-Tube Superheterodyne Coil Kit

540 to 1600 KC

A coil kit for constructing a very fine broadcast band superheterodyne receiver using one stage of RF ahead of the mixer circuit and a two stage intermediate frequency amplifier followed by a push-pull Class AB pentode audio amplifier.

- | | |
|---|-------------------|
| | List Price |
| 1 No. 242-A Antenna Coil | \$.90 |
| 1 No. 242-RF RF Coil | .90 |
| 1 No. 242-K Oscillator Coil | .75 |
| 1 No. 412-K-1 Input I.F. Transformer | 1.60 |
| 1 No. 412-K-2 Interstage I.F. Transformer | 1.60 |
| 1 No. 412-K-4 Output I.F. Transformer | 1.60 |
| 1 .001 3% Mica Padding Condenser | .25 |
| 1 No. 924 Blue Print | .25 |
- Miller No. 924 9-Tube Superheterodyne Coil Kit \$7.50



Miller RADIO PRODUCTS



INTERMEDIATE FREQUENCY TRANSFORMERS

CODE FOR ORDERING

We can supply from stock I.F. transformers in many popular intermediate frequencies and have adopted a code to facilitate ordering and identification of the various types as follows:

Factory Adjusted to	Code Letter	Frequency Range
132½ KC	M	127 - 137 KC
175 KC	K	165 - 185 KC
262½ KC	H	250 - 275 KC
465 KC	C	450 - 475 KC
525 KC	Q	500 - 550 KC
1500 KC	W	1400 - 1600 KC
3000 KC	X	2800 - 3200 KC
5000 KC	Y	4700 - 5300 KC
8000 KC	Z	7500 - 8500 KC

(Special frequencies can be supplied on order.)

Intermediate frequency transformers require different degrees of coupling for various circuit applications, and these are coded as follows:

No. 1 Input Stage—Has coupling adjusted for maximum selectivity and is for use between the mixer and the first I.F. amplifier tube when two or more stages are used.

No. 2 Interstage—Designed to be used as the interstage transformer in a two stage amplifier or as the input stage for a single stage amplifier. Coupling is adjusted to the optimum degree. May

also be used as the output transformer in an amplifier in which the second detector is a non-current consuming load, such as a bias detector of any type.

No. 3 Diode Transformer—For use as the output transformer to feed any full-wave diode detector circuit. The secondary is center tapped to provide equal voltage to both diode plates. Adjusted to provide over-coupling in order to prevent excessive selectivity, which would result in poor audio quality.

No. 4 Diode Transformer—This transformer is similar to the No. 3 type except that no center tap is provided.

No. 5 Beat Frequency Oscillator—An efficient electron-coupled type beat frequency oscillator transformer for CW use and for simplifying the logging of DX stations.

No. "CF" Crystal Filter Transformers—These transformers are sold in pairs for use in crystal filter circuits of amateur and commercial receivers. They replace the regular input transformer and are of the low impedance link coupled type.

Miller Intermediate Frequency Transformers are supplied in five standard shield sizes. Each size is available in types for use in any section of the intermediate frequency amplifier. Physical dimensions of the shields are as follows:

No. 212 Type—Outside dia. 2 7/8". Length 3 1/2". Spade bolt mounting centers 2".

No. 312—Outside dia. 1 9/8". Length 3". Spade bolt mounting centers 1 11/16".

No. 412 Type—Outside dia. 1 7/8". Length 3". Spade bolt mounting centers 1 13/16".

No. 512, 612, and 712 Types—1 1/2" square x 3 1/2" long. Spade bolt mounting centers 1 5/8".

No. 912, 1012 and 1112 Types—2" square x 4 1/2" long. Spade bolt mounting centers 1 7/8".

EXAMPLE OF THE USE OF PRECEDING

CODE: Suppose it is desired to order a set of intermediate frequency transformers to operate at 175 KC with a full-wave diode second detector. Should you desire to order the iron core air tuned type transformer, it is seen that the type number for this unit is No. 1112. As the frequency desired is 175 KC to be designated by the letter "K." As you desire three units, consisting of an input transformer, an interstage transformer, and an output transformer for a full-wave diode detector, you would order as follows:

- 1 Only No. 1112-K-1
- 1 Only No. 1112-K-2
- 1 Only No. 1112-K-3



Variable Selectivity I.F. Transformer.

VARIABLE SELECTIVITY I. F. TRANSFORMERS

MILLER Variable Selectivity Intermediate Frequency Transformers have been designed to meet the combined demand for both the high degree of selectivity so necessary for good DX reception and for a band width great enough for the reception of high fidelity programs broadcast from nearby stations. This has been accomplished by a simple electrical method of changing coupling devised by Miller Engineers. It is the most simple and effective method available and does not require any form or type of mechanical adjusting control. A single pole double throw switch is all that is required with a single stage I.F. amplifier. The two positions of the switch provide for sharp and broad tuning. The "broad" position band width is approximately twice that of the "sharp" position for the particular type of I.F. transformer being used. Miller Variable Selectivity I.F. Transformers are available in several types and in all standard frequencies.

Type No.	Description	List Price
F#212	Air-Core Compression Trimmer. 2 7/8" dia. x 3 1/2" Shield	\$2.00
F#312	Air-Core Compression Trimmer. 1 9/8" dia. x 3" Shield	2.00
F#412	Air-Core Compression Trimmer. 1 7/8" dia. x 3" Shield	2.00
F#512	Air-Core Compression Trimmer. 1 1/2" Sq. x 3 1/2" Shield	2.00
F#612	Iron-Core Compression Trimmer. 1 1/2" Sq. x 3 1/2" Shield	2.50
F#1012	Air-Core Air-Dielectric Trimmer. 2" Sq. x 4 1/4" Shield	5.50
F#1112	Iron-Core Air-Dielectric Trimmer. 2" Sq. x 4 1/4" Shield	6.00



No. 812

WAVE TRAPS

These units are designed to eliminate interference from amateur phone and CW stations and commercial transmitters in broadcast and short-wave receivers. They are also useful for reducing interference from powerful local broadcast stations. The Miller Wave Trap consists of a completely shielded high "Q" parallel resonant circuit and is compact and simple to install. The wave trap connects in series with the antenna, and if necessary several wave traps may be connected in series to eliminate interference from more than one station. Miller Wave Traps do not interfere with the normal operation of the receiver at frequencies other than that to which the wave trap is tuned. A screw driver adjustment is provided to tune the wave trap to the interfering frequency. Available for all standard frequencies and may be made on order for special frequencies. The dimensions of the unit are 1 5/8" diameter x 3" long.

Type No.	Description	List Price
812-X-1	425 to 525 KC	\$1.50
812-X-2	225 to 375 KC	1.50
812-X-3	150 to 225 KC	1.50
812-BC-1	1200 to 1800 KC	Standard 1.50
812-BC-2	800 to 1200 KC	Broadcast 1.50
812-BC-3	450 to 800 KC	Band 1.50
812-A	160 Meter Amateur Band	1.50
812-B	80 Meter Amateur Band	1.50
812-C	40 Meter Amateur Band	1.50
812-D	20 Meter Amateur Band	1.50
812-E	10 Meter Amateur Band	1.50



DUAL WAVE TRAPS

While the ordinary single-circuit wave trap, such as our type 812, is satisfactory for most installations, quite often conditions are encountered making it necessary to provide a much higher degree of attenuation and a sharper resonance curve than can be obtained from either the series or parallel resonant circuit. To provide a satisfactory wave trap to be used under these extreme conditions we have developed a dual wave trap consisting of both a series resonant and a parallel resonant circuit separately shielded and assembled in a twin unit. This trap provides almost infinite attenuation at the resonant frequency and has a sufficiently sharp resonance curve to provide minimum attenuation to frequencies other than resonance. A separate tuning knob for each circuit is provided, and the entire wave trap is completely shielded. Mounting brackets enable the unit to be attached directly to the chassis of the receiver. Attractively finished in black "Kem-Art" baked enamel. Shield dimensions 1 5/8" wide x 2 3/4" long x 2" high.

Type No.	Description	List Price
No. 813-BC-1	900-1600 KC Wave Trap	\$3.50
No. 813-BC-2	500-900 KC Wave Trap	3.50



Miller

RADIO PRODUCTS



No. 512

Standard Replacement I.F. Transformers

The wise serviceman will carry a stock of these transformers at all times. They may be used for almost all makes of receivers. Constructed of the finest materials including aluminum shields, heat-treated low drift trimmers and a special winding impregnation which prevents electrolysis in warm, humid climate. Dimensions: 1 3/8" square x 3 1/2" high. Spade bolts are provided for mounting.

The actual frequency range of these replacement transformers is considerably greater than indicated below. However, most standard receivers use intermediate frequencies that are within the range given.

450 to 475 KC

	List Price
Input for 2-stage amplifiers	
No. 512-C-1	\$1.25
Interstage for 2-stage amplifiers	
No. 512-C-2	1.25
Input for single stage amplifiers	
No. 512-C-2	1.25
Output for full-wave diode	
No. 512-C-3	1.25
Output for half-wave diode	
No. 512-C-4	1.25

250 to 275 KC

Input for 2-stage amplifiers	
No. 512-H-1	1.25
Interstage for 2-stage amplifiers	
No. 512-H-2	1.25
Input for single stage amplifiers	
No. 512-H-2	1.25
Output for full-wave diode	
No. 512-H-3	1.25
Output for half-wave diode	
No. 512-H-4	1.25

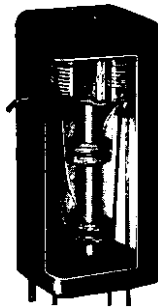
165 to 185 KC

Input for 2-stage amplifiers	
No. 512-K-1	1.25
Interstage for 2-stage amplifiers	
No. 512-K-2	1.25
Input for single stage amplifiers	
No. 512-K-2	1.25
Output for full-wave diode	
No. 512-K-3	1.25
Output for half-wave diode	
No. 512-K-4	1.25

Beat Frequency Oscillators

For use in communications type receivers for CW signals and in short wave receivers to assist in tuning weak signals. An adjustment knob is provided on the top of the shield. The winding is of the tapped type for cathode feed-back in electron coupled circuits. May be used with either a triode or screen-grid tube. A circuit diagram is included with each transformer.

Air Core Type	List Price
No. 512-K-5	165-185 KC.....\$1.75
No. 512-H-5	250-275 KC.....1.75
No. 512-C-5	450-475 KC.....1.75
No. 512-O-5	500-550 KC.....1.75
No. 512-W-5	1400-1600 KC.....1.75
Iron Core Type	List Price
No. 612-K-5	165-185 KC.....\$2.25
No. 612-H-5	250-275 KC.....2.25
No. 612-C-5	450-475 KC.....2.25
No. 612-O-5	500-550 KC.....2.25
No. 612-W-5	1400-1600 KC.....2.25



No. 1012

AIR TUNED TRANSFORMERS

Air Core and Iron Core

The air-dielectric condensers used in the MILLER Series 1012 and 1112 Intermediate Frequency Transformers are constructed on conventional time-proven principles and are not to be confused with some types using experimental and tricky designs. Soldered brass plates and ceramic construction is used throughout. A special tension shoe holds the rotor rigidly and permanently in adjustment when subjected to mechanical vibration and shocks. The condenser has an extremely low power factor and a "Q" approximately ten times as great as that of the ordinary mica compression type trimmer. In order to provide the utmost ease of adjustment the trimmer capacity is divided into two parts—approximately 70% of the total capacity being fixed and 30% variable. The entire capacity is, of course, air-dielectric. This method of construction gives the same effect as the use of parallel band spread used in Communication type receivers. Tuning adjustments are made from the top of the shield.

For UHF superheterodyne receivers our No. 1012 series high frequency I.F. transformers are the finest obtainable. The 1012 air-core series is available in the following stock frequencies: K type for 175 KC, C type for 465 KC, W type for 1500 KC, X type for 3000 KC, Y type for 5000 KC. The 1112 iron-core series is available in the following stock frequencies: K type for 175 KC, H type for 262 KC, C type for 465 KC.

Transformers for other frequencies are available on order.

MILLER Air-Tuned I.F. Transformers are assembled in attractive black "Kem-Art" finished aluminum shields 2" sq. x 4 1/4" long and are provided with 6/32 spade bolts for attaching to the chassis. The Series 1112 Transformers are the iron-core type.

Type No.	Description	List Price
(Air-Core Air-Dielectric Condenser Tuned I.F. Transformers)		
1012—Nos. 1, 2, 3, and 4		\$5.00
1012—No. 5 Beat Frequency Oscillator		5.25
F # 1012—Variable Selectivity		5.50
(Iron-Core Air-Dielectric Condenser Tuned I.F. Transformers)		
1112—Nos. 1, 2, 3, and 4		\$5.50
1112—No. 5 Beat Frequency Oscillator		5.75
F # 1112—Variable Selectivity		6.00



No. 612

Iron Core I.F. Transformers

Iron core intermediate frequency transformers give a great deal more gain and selectivity than can be obtained with the air core type. In many cases a single stage using iron core transformers will have the gain and selectivity of two stages of air core transformers and will have a lower noise level. In many cases an iron core transformer may be substituted for an air core unit in standard receivers to improve the performance.

1400 to 1600 KC

	List Price
Input for 2-stage amplifiers	
No. 612-W-1	\$2.00
Interstage for 2-stage amplifiers	
No. 612-W-2	2.00
Input for single stage amplifiers	
No. 612-W-2	2.00
Output for full-wave diode	
No. 612-W-3	2.00
Output for half-wave diode	
No. 612-W-4	2.00

450 to 475 KC

Input for 2-stage amplifiers	
No. 612-C-1	\$2.00
Interstage for 2-stage amplifiers	
No. 612-C-2	2.00
Input for single stage amplifiers	
No. 612-C-2	2.00
Output for full-wave diode	
No. 612-C-3	2.00
Output for half-wave diode	
No. 612-C-4	2.00

250 to 275 KC

Input for 2-stage amplifiers	
No. 612-H-1	2.00
Interstage for 2-stage amplifiers	
No. 612-H-2	2.00
Input for single stage amplifiers	
No. 612-H-2	2.00
Output for full-wave diode	
No. 612-H-3	2.00
Output for half-wave diode	
No. 612-H-4	2.00

165 to 185 KC

Input for 2-stage amplifiers	
No. 612-K-1	2.00
Interstage for 2-stage amplifiers	
No. 612-K-2	2.00
Input for single stage amplifiers	
No. 612-K-2	2.00
Output for full-wave diode	
No. 612-K-3	2.00
Output for half-wave diode	
No. 612-K-4	2.00

The mica compression trimmers used in Miller I.F. Transformers are treated with our exclusive automatic cycling heat treatment consisting of alternately heating to 200° F. and cooling to 90° F. through five complete cycles. This heat treatment results in a much higher degree of capacity stability, which in turn insures perfect alignment of the I.F. transformer under the conditions of varying temperatures encountered in the modern radio receiver.

Miller RADIO PRODUCTS

REPLACEMENT COILS

Miller replacement coils and windings are carefully constructed to duplicate as nearly as possible the original coil which they are designed to replace. All windings are thoroughly impregnated against moisture absorption. Replacement coils most commonly needed are listed below. However, we carry in stock and add to our stock from time to time new replacement units as the need arises. Special replacement coils which are not carried in stock may be made to order at a reasonable cost. Merely ship us the defective unit and we will make necessary repairs or a duplicate



Majestic Replacement I.F. Windings

Model	Winding Only for	Majestic No.	Miller No.	List Price
15-15B-55-150-200	1st I.F.	4428-4429	4570	\$.80
15-15B-150 55	2nd I.F.	8384-4429	4571	.80
25	1st I.F.	5326	4574	.80
25	2nd I.F.	5337	4575	1.00
25B	1st I.F.	5601	4576	.80
25B	2nd I.F.	5602	4577	1.00
66	1st I.F.	10589-10078	4579	.80
66	2nd I.F.	10098-10591	4580	.80
116	2nd I.F.	9361	4581	.80
200	2nd I.F.	6254	4583	1.00
210	1st I.F.	6119	4584	.80
210	2nd I.F.	6123	4585	.80
210	3rd I.F.	6127	4572	.80
310-A, 310-B	1st I.F.	7821	4586	.80
330-340-360-390	2nd I.F.	7812	4587	1.00
360	2nd I.F.	9094	4588	.80
460	1st I.F.	10149	4589	.80
500	1st I.F.	10843	4590	.80
500	2nd I.F.	11705	4591	.80
500	3rd I.F.	10852	4592	.80
86-460-490-461-462-463-491-493-520-800-105-95	2nd I.F.	10253-11014-11361	4573	1.00
290-300-310-330-340-390-460-490-520-800-320-280	RF Choke	7187	8412	.50

Stewart-Warner Replacement I.F. Coils

Model	Winding Only for	S-W No.	Miller No.	List Price
R-123	2nd I.F.	83953	8395	\$1.00

Zenith Replacement I.F. Coils

Chassis No.	Winding Only for	Zenith No.	Miller No.	List Price
1004-1203-5634-5635-5644-5709-5801	All I.F.		8396	\$1.25

Crosley Replacement I.F. Windings

Model	Winding Only for	Miller No.	List Price
124	Output I.F.	M-124	\$1.25



Radiola Replacement I.F. Windings

Model	Winding Only for	Radiola No.	Miller No.	List Price
R80-R82-R86-RAE68	1st I.F.	8567	8567	\$1.00
R80-R82-R86-RAE68	2nd I.F.	8565	8565	1.00
R80-R82-R86-RAE68	3rd I.F.	8566	8566	1.00



Model	Winding Only for	No.	Miller No.	List Price
R7A-R9DC-RE16A-R10DC-R7-R4-R6-RE18A-R21-R11-R18-RAE-26-R55	1st I.F.	7266	7266	1.00
R7A-R9DC-RE16A-R10DC-R7-R4-R6-RE18A-R21-R11-R18-RAE-26-R55	2nd I.F.	7267	7267	1.00



Model	Winding Only for	No.	Miller No.	List Price
66-67	1st I.F.	8481	8481	1.00
66-67	2nd I.F.	8481	8481	1.00
66	3rd I.F.	8500	8500	1.00
67	3rd I.F.	8482	8482	1.00



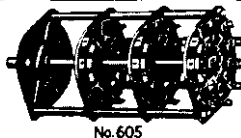
Model	Winding Only for	No.	Miller No.	List Price
RF Primary Choke		8197	8197	.50

Antenna Coil Replacement Primaries

A high impedance type duo-lateral antenna primary for replacing burnt-out primaries. Wound on specially treated impregnated cardboard tubing. Available in four sizes. Dimensions given are for outside diameter of antenna coil secondary winding.

List Price

No. 125—For 3/4" Coils	\$.25
No. 150—For 7/8" Coils	.25
No. 250—For 1" Coils	.25
No. 300—For 1 1/4" Coils	.25



Band Selector Switches

The successful operation of a multi-band receiver depends to no little degree upon the excellence of the switch used. These switches are of a positive self-cleaning type with silver plated contacts. 3/8" single hole mounting.

List Price

No. 402—4 Pole, 2 Position Switch	\$1.00
No. 205—2 Pole, 5 Position Switch	1.00
No. 404—4 Pole, 4 Position Switch	1.60
No. 405—4 Pole, 5 Position Switch	1.75
No. 605—6 Pole, 5 Position Switch	2.40
No. 806—8 Pole, 6 Position Switch	3.20

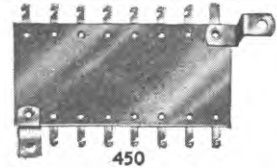


Tie Points

One of the handiest items the radio manufacturer or constructor can find for the termination of pigtail resistors and midget condensers and common leads in the receiver, amplifier, or transmitter. Extra heavy eyelet type terminal lugs are securely mounted in bakelite strips 1/8" thick, and are hot-dip tinned. The figure preceding the "0" indicates the number of insulated terminals.

LIST PRICE

Cat. No.	Lots of 100 Per 100	Less than 100—Each
No. 1510—3/8" x 3/4"	\$2.00	\$.025
No. 1520—3/8" x 1 1/8"	2.65	.030
No. 1530—3/8" x 1 7/8"	4.15	.050
No. 1540—3/8" x 2 1/4"	5.30	.060
No. 1550—3/8" x 2 3/4"	6.00	.070



Bakelite Terminal Plates

These terminal plates, provided with solder lugs, are particularly adaptable for the assembly of groups of resistors and midget condensers. They will greatly facilitate assembly and wiring of the chassis.

No. 420—Has six terminal lugs on each side for 1/2 watt resistors, spaced 1/8" apart. Made of 1/8" bakelite 1" x 3".

No. 430—Has five terminal lugs on each side for 1 watt resistors and midget condensers, spaced 1/8" apart. Made of 1/8" bakelite 2" x 2 1/2".

No. 440—Has fourteen terminal lugs on each side for 1/2 watt resistors, spaced 1/8" apart. Made of 1/8" bakelite 1" x 5 3/4".

No. 450—Has seven terminal lugs on each side for 1 watt resistors and midget condensers, spaced 1/8" apart. Supplied with "Z" brackets for 3/4" stand-off from chassis. Made of 1/8" bakelite 1 3/4" x 3 3/4".

No. 470—Similar to No. 450 except has 19 terminal lugs on each side.

List Price

No. 420 Terminal Plate	\$.20
No. 430 Terminal Plate	.25
No. 440 Terminal Plate	.35
No. 450 Terminal Plate	.30
No. 470 Terminal Plate	.75

On Quantity Orders we can make up special terminal strips to your specifications. Submit sketch for quotation.



Variable Condensers

High quality variable condensers furnished with spade bolts for mounting. Individual trimmers on each section. The latest design low-minimum capacity type. 1/4" shaft. Maximum capacity .000365 uf.

List Price

No. 2102 2 Sections, 180° rotation	\$2.50
No. 2102-G 2 Sections, geared to 270° shaft rotation	2.75
No. 2103 3 Sections, 180° rotation	3.75
No. 2104 4 Sections, 180° rotation	5.00

(No. 2104 has mounting brackets)

MILLER QUALITY PRODUCTS Miller MILLER QUALITY PRODUCTS

RADIO PRODUCTS



RESISTOR TYPE RF CHOKES Pi Wound on Ceramic Forms

MILLER Resistor Type Radio Frequency Chokes are the result of careful research and design and offer advantages found in no other similar type. The terminals will not come off! This is due to an entirely new method of fastening the leads as well as a unique design. Soldering temperatures and end strain will not loosen the leads. The terminals are made of a special cadmium plated soft, flexible brass. The windings are of the multiple-section duo-lateral type wound on high grade ceramic forms 1/4" diameter x 1 1/2" long. All of these chokes have extremely low distributed capacity, less than 1.5 uut. for most types. Maximum safe current capacity is 125 MA. Inductance tolerance three percent plus or minus.

Cat. No.	Inductance (Millihenries)	DC Resistance (Ohms)	List Price
4531	.5	11.5	\$.55
4532	1.5	21.0	.55
4537	2.5	26.0	.55
4538	5.0	40.0	.75
4539	7.5	79.0	.85
4540	10.0	95.0	1.00
4541	25.0	160.0	1.20

2 1/2 and 5 Meter RF Chokes

Cat. No.	Inductance (Millihenries)	DC Resistance (Ohms)	List Price
4528	2.5	.27	\$.45
4529	5.0	1.00	.45



HEAVY DUTY NAVY TYPE CHOKES

The following Heavy Duty High Frequency Chokes are recommended for use in the high power transmitter. They are pi wound on Alsimag forms 1/2" in diameter x 3 1/2" long provided with snap-on brackets. Both ends of the form are tapped for 6/32 machine screws and the brackets may be removed for end mounting. All hardware is of cadmium plated brass.

Cat. No.	Inductance (Millihenries)	Current (Milli-amperes)	DC Resistance (Ohms)	List Price
4534	1.0	1000	2.50	\$1.50
4535	1.5	1000	3.65	1.60
4533	2.5	750	4.50	1.75
4536	4.0	750	5.50	2.00

High Frequency Chokes

3693	.40	1000	1.32	\$1.25
3694	.60	1000	2.00	1.50



2 1/2 and 5 Meter RF Chokes

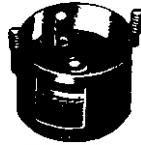
Cat. No.	Inductance (Microhenries)	DC Resistance (Ohms)	List Price
3691	10	.36	\$.75
3692	20	.50	.75



Radio Frequency Chokes

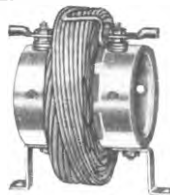
The following Miller Radio Frequency Chokes are wound on specially treated wooden dowels with bakelite terminal plates and tinned soldering lugs. They are for single hole mounting and are duo-lateral wound. The low distributed capacity of these units makes them very efficient in radio frequency circuits wherever these inductance values are satisfactory. They are quite small and compact, the bakelite terminal plate being only 1 1/8" in diameter.

No.	RF Choke	Inductance	List Price
No. 610	RF Choke	.166 MH	\$.25
No. 620	RF Choke	.675 MH	.25
No. 630	RF Choke	1.540 MH	.25
No. 640	RF Choke	2.742 MH	.30
No. 650	RF Choke	4.450 MH	.30
No. 660	RF Choke	6.500 MH	.35
No. 670	RF Choke	9.300 MH	.40
No. 680	RF Choke	12.200 MH	.40
No. 690	RF Choke	16.000 MH	.45
No. 1000	RF Choke	20.000 MH	.50



Iron Core Shielded Chokes

Cat. No.	Inductance (Millihenries)	DC Resistance (Ohms)	List Price
851	.5	8.6	\$.85
852	1.0	11.5	.90
853	2.5	22.0	.95
854	5.0	31.0	1.00
855	7.5	42.0	1.00
856	10.0	47.0	1.05
857	25.0	100.0	1.20
858	50.0	160.0	1.35
859	75.0	222.0	1.45
860	100.0	348.0	1.85
861	150.0	520.0	2.45



DUO-LATERAL LINE FILTER CHOKES

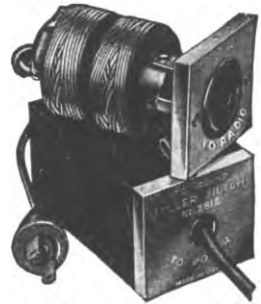
Miller Duo-Lateral Line Filter Chokes are recommended to manufacturers for use in farm lighting plants, sign flashers, signaling systems, oil burners, diathermy equipment, and all types of intermittent switching systems. Technicians and electrical contractors sometimes find it desirable to construct their own filters using Miller Chokes rather than to use the Miller Uni-Filter.

Single Chokes

Type No.	Max. Amps.	Inductance	DC Resistance	List Price
7825	2	.600	.75	\$1.00
7826	5	.570	.28	2.50
7827	10	.370	.15	3.25
7828	20	.200	.085	4.00
7829	30	.135	.05	5.00

Double Chokes

Type No.	Max. Amps.	Inductance	DC Resistance	List Price
D-7826	5	.570	.28	\$3.75
D-7827	10	.370	.15	5.00
D-7828	20	.200	.085	6.00
D-7829	30	.135	.05	7.50

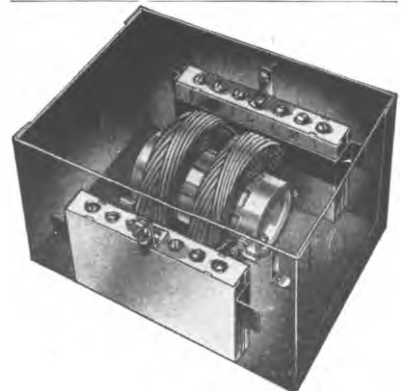


ALL-WAVE INTERFERENCE FILTERS

Underwriters' Laboratories Approved
The new Miller No. 7818 All-Wave Line Filter is an outstanding development for the elimination of radio interference from small electrical appliances, such as food mixers, juice extractors, hair dryers, drink mixers, vacuum cleaners, sewing machines, cash registers, small fans, dictating machines, comptometers, etc. When used in the supply cord of the radio receiver it will prevent unwanted signal pickup and direct line noise pick-up from the house wiring system.

The No. 7818 line filter may be used on either AC or DC voltages up to 220 volts. It is capable of filtering appliances and radios drawing up to 150 watts of power. Shipping weight approximately 1 pound.

List Price
No. 7818—All-Wave Line Filter..... \$4.00



MILLER UNI-FILTER

As the name implies, the Miller Uni-Filter is a universal line filter. It may be used for any filter application by simply making the correct internal connections. It is no longer necessary to stock a special filter for each individual type of equipment—a Miller Uni-Filter will do the job!

The steel case with removable cover is finished in Kem-Art black baked "crackle" enamel. Knockouts are punched in each end for standard 1/2" or 3/4" conduit or flexible cable fittings. The dimensions of the Uni-Filter are 5" high x 8 3/4" long x 6 3/4" wide.

MILLER UNI-FILTERS

Uni-Filter No.	Current Capacity	List Price
7819	5 Amps.	\$15.50
7820	10 "	16.75
7821	20 "	17.75
7822	30 "	19.25

MILLER UNI-FILTER BASE KIT

	List Price
7801—Uni-Filter Case	\$4.00
7802—Uni-Filter Capacitor Blocks	7.50
@ \$3.75	
7800—Uni-Filter Base Kit Complete	11.50

Select a Dual Choke of suitable capacity for use with the Base Kit.

A1addin

ADJUSTABLE COUPLING, MICA TUNED I-F Transformers



Type	Frequency	Use	List Price
A185	115 kc	Converter	\$3.00
A185	115 kc	Interstage	3.00
A285	115 kc	Diode	3.00
A175	175 kc	Converter	3.00
A175	175 kc	Interstage	3.00
A275	175 kc	Diode	3.00
A150	260 kc	Converter	3.00
A150	260 kc	Interstage	3.00
A250	260 kc	Diode	3.00
A125	370 kc	Converter	3.00
A125	370 kc	Interstage	3.00
A225	370 kc	Diode	3.00
A101	465 kc	Converter	3.00
A101M*	465 kc	Converter	3.00
A100	465 kc	Interstage	3.00
A201	465 kc	Diode	3.00
A200M*	465 kc	Diode	3.00
A100C	465 kc	XTAL Inp.	4.00
A200C	465 kc	F. W. Diode	4.00

Aluminum Shield $1\frac{1}{2}$ " D, x $3\frac{1}{2}$ " high, $1\frac{1}{8}$ " Mtg. Centers

*To be used with metal tubes.

ADJUSTABLE COUPLING— TELEVISION Mica Tuned I-F Transformers

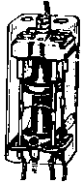


Type	Frequency	Use	List Price
A3500	3500 kc	Interstage	\$4.00
A3502	3500 kc	Diode	4.00

Aluminum Shield 2" Sq., 4" high, $1\frac{1}{8}$ " Mtg. Ctrs.

MIDGET

Mica Tuned I-F Transformers



Type	Frequency	Use	List Price
C101M	465 kc	Converter	\$2.50
C100M	465 kc	Interstage	2.50
C200M	465 kc	Diode	2.50

C350	465 kc	BFO	2.50
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C3550	3500 kc	BFO	2.50
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Copper Shield $1\frac{1}{8}$ " Sq., $2\frac{1}{2}$ " high, $\frac{1}{8}$ " Mtg. Ctrs.

CONVENTIONAL Mica Tuned I-F Transformers



Type	Frequency	Use	List Price
S175	175 kc	Converter	\$2.50
S275	175 kc	Diode	2.50
S150	262 kc	Converter	2.50
S250	262 kc	Diode	2.50
S101	465 kc	Converter	2.50
S200	465 kc	Diode	2.50

Aluminum Shield $1\frac{1}{8}$ " Sq., $3\frac{1}{2}$ " high, $1\frac{1}{8}$ " Mtg. Centers

INDUCTANCE TUNED I-F Transformers



Type	Frequency	Use	List Price
L150	262 kc	Converter	\$2.50
L250	262 kc	Diode	2.50
L101	465 kc	Converter	2.50
L200	465 kc	Diode	2.50

Aluminum Shield $1\frac{1}{8}$ " Sq., $3\frac{1}{2}$ " high, $1\frac{1}{8}$ " Mtg. Centers

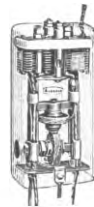
AIR TUNED I-F Transformers



Type	Frequency	Use	List Price
G175	175 kc	Converter	\$5.50
G175	175 kc	Interstage	5.50
G275	175 kc	Diode	5.50
G101	465 kc	Converter	5.50
G101M	465 kc	Converter	5.50
G101A	465 kc	Interstage	5.50
G101A	465 kc	Interstage	5.50
G201	465 kc	Diode	5.50
G201M	465 kc	Diode	5.50
G208	465 kc	Silencer Diode	4.50
G101C	465 kc	XTAL Inp.	6.25
G1601	1600 kc	Converter	10.00
G1600	1600 kc	Interstage	10.00
G1604	1600 kc	Diode	10.00
G1605	1600 kc	Silencer	8.00

Aluminum shield $1\frac{1}{8}$ " x $1\frac{1}{8}$ " x 4" high, $\frac{1}{2}$ " Mtg. centers.

AIR TUNED—ADJUSTABLE COUPLING I-F Transformers



Type	Frequency	Use	List Price
GA101	465 kc	Converter	\$6.50
GA101M	465 kc	Converter	6.50
GA101A	465 kc	Interstage	6.50
GA101A	465 kc	Interstage	6.50
GA201	465 kc	Diode	6.50
GA201M	465 kc	Diode	6.50
GA100C	465 kc	XTAL Inp.	7.25

Aluminum shield $1\frac{1}{8}$ " x $1\frac{1}{8}$ " x 4" high, $\frac{1}{2}$ " Mtg. centers.

AIR TUNED—BAND EXPANSION I-F Transformers



Type	Frequency	Use	List Price
GH103	465 kc	Converter	\$ 6.50
GH1601	1600 kc	Converter	12.50
GH1600	1600 kc	Interstage	12.50

Use G1604 diode with GH1601 converter and GH1600 interstage

Aluminum Shield $1\frac{1}{8}$ " x $1\frac{1}{8}$ " x 4" high, $\frac{1}{2}$ " Mtg. Centers

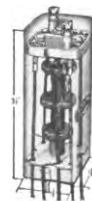
HI-FIDELITY—BAND EXPANSION Mica Tuned I-F Transformers



Type	Frequency	Use	List Price
H102*	465 kc	Converter	\$4.00
H103†	465 kc	Converter	4.50
H200	465 kc	Diode	3.50

Aluminum Shield 2" x 2" x 4" * 2 position. † 3 position

TRIPLE TUNED I-F TRANSFORMERS



Type	Frequency	Use	List Price
N150	262 kc.	Conv.	\$3.50
N250	262 kc.	Diode	3.50
N101	465 kc.	Conv.	3.50
N200	465 kc.	Diode	3.50

Aluminum shield $1\frac{1}{8}$ " sq. x $3\frac{1}{2}$ " high, $1\frac{1}{8}$ " Mtg. Centers.

Aladdin



ALADDIN Q CONTROL PERMEABILITY TUNER KIT Experimenter's Model 1

Now anyone can build a radio that will cover the entire broadcast band and police band, 540 to 1720 kc. without using variable tuning condensers. Your wiring and assembly will be easy. Complete instructions for building a Q Control Permeability Tuned Receiver accompanies each tuner. **SPECIAL \$5.00**

List Price\$15.00 Your Net Price.....**\$5.00**

TELEVISION I-F Transformers

Type	Frequency	Use	List Price
U100	13,250 kc.	Interstage	\$2.00
U200	13,250 kc.	Diode	2.00

Aluminum Shield 1½" D., 2¼" H., 1/16" Mtg. Centers



ALADDIN RESONATOR



A flexible, time saving alignment tool. When used with a reliable oscillator and output meter, misaligned circuits are immediately indicated, showing whether an increase or decrease in capacity is needed to align the circuit. Inserting the Poolyron end into a coil has the effect of adding capacity. Proper alignment is indicated when both ends, upon being separately placed in the field of the coil, decrease the output of the receiver. List price with instructions, \$1.00.

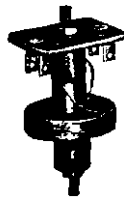
WAVE TRAPS

Type	Frequency in kc	Size	List Price
R4563	440-510 Shielded	1¼ x 1½" sq.	\$2.00
R4560	440-510 Unshielded	1¼ x 1½"	1.50



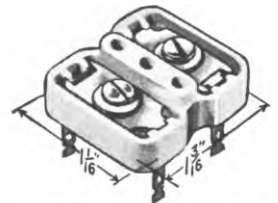
CHOKE COILS

Type	Inductance range in millihenries (approx.)	Factory Setting	List Price
K250	2.1- 2.9	2.5 mh.	\$.90
K500	4.0- 6.0	5.0 mh.	1.00
K1000	8.0-12.0	10.0 mh.	1.10
K1500	12.5-17.5	15.0 mh.	1.20
K2500	20.0-30.0	25.0 mh.	1.25



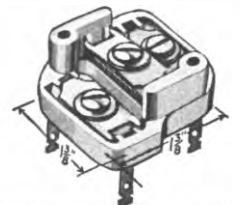
TRIMMING CONDENSERS Double Tuned

Type	Min. Cap.	Max. Cap.	List Price
CO-2	7 uuf.	50 uuf.	Double, 2 plates \$0.50 Double, 3 plates .55 Double, 4 plates .65 Double, 5 plates .75 Double, 6 plates .85
CO-3	31 uuf.	120 uuf.	
CO-4	62 uuf.	160 uuf.	
CO-5	88 uuf.	300 uuf.	
CO-6	122 uuf.	420 uuf.	



TRIMMING CONDENSERS Triple Tuned

Type	Min. Cap.	Max. Cap.	List Price
CT-2	7 uuf.	50 uuf.	Triple, 2 plates \$0.65 Triple, 3 plates .75 Triple, 4 plates .90 Triple, 5 plates 1.05 Triple, 6 plates 1.20
CT-3	31 uuf.	120 uuf.	
CT-4	62 uuf.	160 uuf.	
CT-5	88 uuf.	300 uuf.	
CT-6	122 uuf.	420 uuf.	



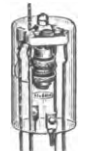
ANTENNA COUPLERS

Type	Mtg.	For Use With	Ant. Cap. uuf.	Frequency Range in kc	At 1400 kc Band Gn. W.	At 600 kc Band Gn. W.	List Price
500	u	\$	200	530-1500	20.6 142	20.2 40	\$2.00
502	u	\$	300	530-1500	25.0 141	27.2 42	
503	s	\$	300	530-1500	20.4 140	22.6 43	
504	u	\$	75	530-1500	19.3 140	17.6 41	
505	s	\$	75	530-1500	15.8 169	13.9 50	
1501	r	*	200	530-1500	15.7 130	14.3 44	
506	u	†	75	550-1725	20.4 135	18.1 39	
507	s	†	75	550-1725	16.5 151	16.2 44	



R-F COUPLERS

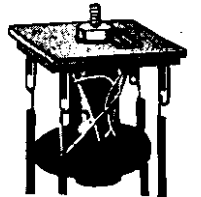
Type	Mtg.	For Use With	Frequency Range in kc	At 1400 kc Band Gn. W.	At 600 kc Band Gn. W.	List Price
1001	s	\$	530-1500	142.0 176	156.0 53	\$2.00
3001	r	*	530-1500	141.0 124	151.0 45	
1006	u	†	550-1725	118.0 158	161.0 50	
1007	s	†	550-1725	99.0 167	140.0 47	



OSCILLATOR COILS

Type	Mtg.	For Use With	Frequency Range in kc	List Price
2000	u	\$*	530-1500	\$2.00
2001	r	\$*	530-1500	
2006	u	†	550-1725	
2007	s	†	550-1725	

(For use with 465 kc. I-F in all types.) Oscillator coils track with coils of similar key designations.



In the above lists, those devices with special indicating marks may be used with r-f couplers and oscillator coils designated with similar markings.

The type mounting specified in column 2 of the tables above may be identified as follows:

u indicates an unshielded coupler
s indicates a shield 2"x2"x3" h aluminum
r indicates a shield 1½"Dx2½" h aluminum.

GORDON TUNING CONTROLS

HAND WHEEL SCALE and POINTER

- No. 300. 3 1/4" h.w. 5 1/4" scale.
List \$1.90. Amateur Net \$1.14
- No. 301. 2 1/4" h.w. 3 3/8" scale.
List \$1.60. Amateur Net \$0.96
- No. 320. 1 5/8" h.w. 3 3/8" scale. List \$1.25. Amateur Net \$0.75
- No. 321. 1 1/8" h.w. 2 1/8", 180° scale. List \$0.80. Amateur Net \$0.48
- No. 322. 1 1/8" h.w. 2 1/8", 270° scale. List \$0.90. Amateur Net \$0.54

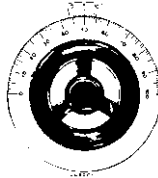


FLANGED KNOB, DIAL and VERNIER MARKER

- No. 292. 3" flanged knob with 4" dial. 0-100 scale covers 180°.
List \$2.25. Amateur Net \$1.35
- No. 296. Same as No. 292 except 5 to 1 ratio planetary type.
List \$4.90. Amateur Net \$2.94

HAND WHEEL DIAL and VERNIER MARKER

- No. 302. 3 1/4" h.w. 4" dial. 180° scale.
List \$2.75. Amateur Net \$1.65
- No. 303. 2 1/4" h.w. 2 3/4" dial. 180° scale.
List \$1.90. Amateur Net \$1.14



- No. 293. 3" flanged knob with 4" dial. 0-100 scale covers 270°.
List \$2.25. Amateur Net \$1.35
- No. 297. Same as No. 293 except 5 to 1 ratio planetary type.
List \$4.90. Amateur Net \$2.94
- No. 294. 2 1/8" flanged knob with 2 3/4" dial. 0-100 scale covers 180°.
List \$1.50. Amateur Net \$0.90
- No. 295. Same as No. 294 except 0-100 scale covers 270°.
List \$1.50. Amateur Net \$0.90

FINE QUALITY BAR KNOBS

- Genuine Black Bakelite—White Pointer Stripe
- No. 285. Length 2 1/4". List Price 15c
Amateur Net 9c
- No. 286. Length 1 1/4". List Price 12c
Amateur Net 7c
- Colors available on special order.



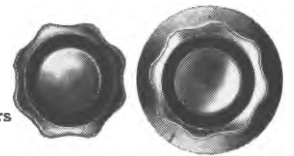
Etched Aluminum Plates 1 3/4" Dia.

No. 27 "Osc. Cond."
No. 28 "Det. Cond."
List 12c Am. Net 7c

Toggle Sw. Plates

No. 272 "Off-On"
No. 573 "Micro-Phono"
List 12c Am. Net 7c

Eight Sizes of
BAKELITE KNOBS
with or without pointers



No.	Size	Metal Pointer	List	Amateur Net
308	3 1/4"	yes	\$ 1.40	\$ 0.84
309	3 1/4"	no	1.30	0.78
310	2 3/4"	yes	1.20	0.72
311	2 3/4"	no	1.10	0.66
312	1 5/8"	yes	0.50	0.30
313	1 5/8"	no	0.40	0.24
314	1 1/8"	yes	0.40	0.24
315	1 1/8"	no	0.30	0.18

1/4" brass bushing. 3/8" holes on special order.

GORDON VERNIER DRIVE DIAL WITH VERNIER INDICATOR



Anti-backlash micrometer control. Decimal indicator permits adjustment to 1/10 of one division. Vernier ratio 14-1 in 360°. Scale calibrated in 268°. Can be mounted on metal panel. Visible dia. of scale 2 7/8". Chrome plated escutcheon.

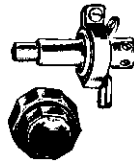
- No. 371, 0 at left. No. 372, 100 at left.
List Price \$4.50. Amateur Net \$2.70

No.	Size	Flange	Metal Pointer	List	Amateur Net
587	3"	yes	yes	\$ 0.75	\$ 0.45
281	3"	yes	no	0.65	0.39
588	2 1/8"	yes	yes	0.60	0.36
283	2 1/8"	yes	no	0.50	0.30
589	2 3/8"	no	yes	0.60	0.36
280	2 3/8"	no	no	0.50	0.30
290	1 3/4"	yes	no	0.48	0.29
590	1 5/8"	no	yes	0.50	0.30
282	1 5/8"	no	no	0.40	0.24
287	1 1/2"	yes	no	0.45	0.27
580	1 3/8"	no	yes	0.45	0.27
288	1 3/8"	no	no	0.35	0.21
591	1 1/8"	no	yes	0.40	0.24
284	1 1/8"	no	no	0.25	0.15

1/4" brass bushing. 3/8" holes on special order.

VERNIER DRIVE PLANETARY UNIT

Dual ratio, 7 to 1 vernier and 1-1 direct, each drive with separate knob. Mounts on control shaft behind panel. Drive shaft projects thru panel.



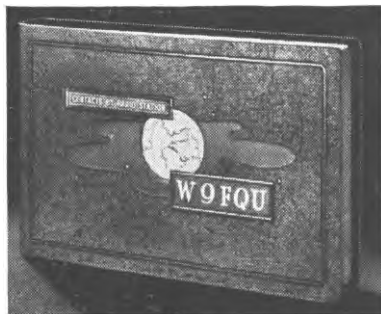
- No. 599. List Price \$2.25. Amateur Net \$1.35
- No. 289. Black Bakelite knobs for above, per pair. List Price 20c. Amateur Net 12c.

GORDON QSL CARD ALBUM

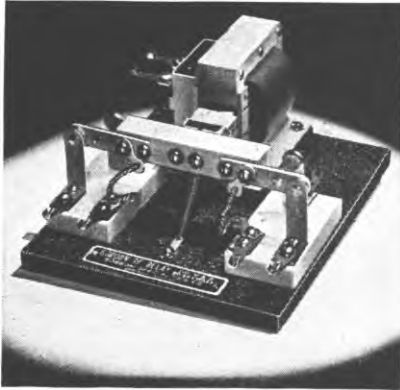
Red Morocco Grained Cover. Gold Embossed. With Call Letters.

Here's the perfect answer to the problem of safely and neatly preserving QSL and SWL cards. Now station visitors can really appreciate the contacts you have made. Pages are gray coverstock—sturdy, good looking. One side of page holds 4 cards. Loose-leaf binding is attained with hidden adjustable screw-posts, holding sheets under compression. They can't pull out. Fifty sheets furnished, complete with stubs to eliminate bulging. Album has capacity for 50 additional pages and stubs.

- No. 600 Gordon QSL Card Album. 10"x15". Amateur Net \$2.50
- No. 601 Longer screw posts and 50 pages. Amateur Net .85



GORDON PARTS AND ACCESSORIES



GORDON HEAVY DUTY RF RELAY

FOR ANTENNA CHANGE-OVER, MULTI-BAND TRANSMITTER
TANK SWITCHING and 60 CYCLE POWER SWITCHING
TAKES 1 Kw. EASILY. IDEAL FOR BEAM ANTENNAS

Here is the high power D.P.D.T. relay providing all the desirable electrical and mechanical characteristics at low cost. Insulation used is Alesimag 196—the finest high freq. insulation money can buy. With a low power factor of .04, it shows negligible losses—even at frequencies of 100 Mc.

When the GORDON Relay makes . . . it goes home **instantly**—powerfully holding the husky $\frac{3}{8}$ " coin silver, self-wiping contacts together with 4 lbs. pull! And contacts are spaced fully $\frac{1}{2}$ " apart—generous leeway for high potentials—negligible capacity effects. Even circuit elements are widely spaced to maintain line characteristics. Actuated by 110 volt AC 50-60 cycle solenoid. Practically hum-free. Absolutely no contact chatter or bounce. Size: $4\frac{3}{4}$ "x $5\frac{1}{8}$ "x3".

No. 1000 1 Kw. RF Relay.

List \$15.00

Amateur Net \$9.00

GORDON NAME PLATES—Two Sizes

DE LUXE LINE - $2\frac{1}{4}$ " x $\frac{1}{2}$ "
List Each 15c - Amateur Net 10c

STANDARD LINE - $1\frac{1}{2}$ " x $\frac{3}{8}$ "
List Each 10c - Amateur Net 6c

For transmitters, sound and test equipment. Most complete line. Brass stock first nickel-plated, then finished in satin chrome. Back-ground etched dull black. Everlasting, corrosion resistant finish. Complete with self-tapping mounting screws. Also De Luxe or Standard Nameplates specially engraved to your specifications. Write for information and prices.

Oscillator
Oscillator Tank
Crystal
Crystal Osc. Plate
Crystal Osc. Grid
Tritet Osc.
Tripler Plate
Tripler Grid
Cathode Tun. Cond.
Transmitter
Buffer
1st Buffer Plate
1st Buf. Pl. Tank
1st Buf. Gr. Tank
2nd Buffer Plate
2nd Buf. Pl. Tank
2nd Buffer Grid

2nd Buf. Gr. Tank
3rd Buffer Plate
3rd Buf. Pl. Tank
3rd Buffer Grid
3rd Buf. Gr. Tank
1st Buf. Dblr. Plate
1st Buf. Dblr. Pl. Tank
1st Buf. Dblr. Grid
1st Buf. Dblr. Gr. Tank
2nd Buf. Dblr. Plate
2nd Buf. Dblr. Pl. Tank
2nd Buf. Dblr. Grid
2nd Buf. Dblr. Gr. Tank
3rd Buf. Dblr. Plate
3rd Buf. Dblr. Pl. Tank
3rd Buf. Dblr. Grid
3rd Buf. Dblr. Gr. Tank
Doubler

Amplifier
Power Amp. Plate
P. A. Plate Tank
Power Amp. Grid
P. A. Grid Tank
Antenna
Antenna Cur.
Antenna Tuning
Beam Antenna
Ground
Neut. Condenser
Plate Voltage
Filament Voltage
Key
Screen Current
Phone—CW
Off—On
Rectifier

Bias Voltage
Send
Receive
Send—Receive
Phones
Receiver
Telegraph or CW
Telephone
Speech Amplifier
Modulator Grid
Modulator Plate
Class B Modulator
Class A Modulator
Sp. Amp. Dvr. Plate
Microphone
Microphone Cur.
Gain Control
Volume

% Modulation
Transceiver
Monitor
Heater Voltage
Generator
Battery Charge
Battery Discharge
Beat Oscillator
Plate No. 1
Plate No. 2
Coupling
Excitation
D. C. Input
D. C. Output
A. C. Input
A. C. Output
Regeneration
Pre-Selector

Mixer No. 1
Mixer No. 2
Mixer No. 3
Fader
Power
Field
Speaker
Radio
Record
Tone
Input
Output
200 Ohm Input
200 Ohm Output
500 Ohm Input
500 Ohm Output
50 Ohm Input
50 Ohm Output

125 Ohm Input
125 Ohm Output
56 Mc Band
28 Mc Band
14 Mc Band
7 Mc Band
3.5 Mc Band
1.7 Mc Band
Oscilloscope
Up—Spot—Down
Left—Spot—Right
Focus
Off—Intensity
Vertical Plates
Horizontal Plates
60 Cycle Sweep
Linear Sweep



ACTUAL SIZE DE LUXE NAMEPLATE

GORDON DIAL PLATES AND MARKERS



No. 260. Dia. 3". Brass Stock, etched black. Raised markings chrome plated. 180° scale.

No. 261. Same except scale covers 270°.
List Each 60c. Amateur Net 36c

No. 262. Same as No. 260, but Dia. is $1\frac{1}{2}$ ".
No. 263. Same as No. 261, but Dia. is $1\frac{1}{2}$ ".
List Each 35c. Amateur Net 21c



No. 264. Dia. $2\frac{1}{4}$ ". Brass stock, etched black. Raised markings chrome plated. One separation between numerals. Plate marked "GAIN."

No. 575. Same, but marked "MASTER GAIN."

No. 568. Same, but marked "TONE."

List Each 40c. Amateur Net 24c



Raised aluminum markings, on black. $2\frac{1}{4}$ "x $1\frac{1}{8}$ ".

No. 276, "GAIN", No. 566, "MICROPHONE"
No. 277, "TONE", No. 570, "MASTER GAIN"
No. 565, "RECORD" No. 571, scale only—no marking
List Each 20c. Amateur Net 12c



Raised aluminum markings, on black. $1\frac{3}{4}$ " Diameter.

No. 25, "VOLUME" No. 225, "1-2"
No. 26, "TONE CONTROL" and "OFF-ON"
No. 29, "BEAT, OSC." and "OFF-ON"
No. 560, "AVC" and "OFF-ON"
List Each 12c. Amateur Net 7c



"OFF-ON" PLATES. TWO STYLES

Raised Aluminum Markings

No. 278 (left) $1\frac{1}{2}$ "x $1\frac{1}{2}$ " No. 273 (right) $1\frac{1}{2}$ "x $1\frac{1}{4}$ "

List Each 10c. Amateur Net 6c

GORDON JACK MARKERS

Similar to No. 273 above, but without mounting screw holes.

No. 219, "PHONES" No. 222, "PHONOGRAPH"

No. 220, "MICROPHONE" No. 223, "PLATE CUR."

No. 221, "MICROPHONE CUR." No. 224, "GRID CUR."
List Each 12c. Amateur Net 7c



WORLD TIME at a Glance!

No guesswork with the GORDON WORLD DX CLOCK. Instantly tells GMT or local time in any of the 24 time zones. Genuine Waltham self-starting movement. Available for 110 or 220 volts; 25, 40, 50 or 60 cycle AC. 24 hr. colored dials. Base removable for mounting flush in a panel.

List \$15.00. Amateur Net \$9.00



GORDON LICENSE CARD HOLDER

Swivel mounting permits easy access to either side of license card, calibration chart or curve sheets held between transparent pyrolin. Overall frame size: $4\frac{1}{2}$ " x 3". Black wrinkle finish. No. 150, with base. No. 151, With Bracket for panel mounting.

List Each \$1.25. Amateur Net 75c



RUBBER GROMMETS—High Dielectric Strength

Insulate holes in metal sheets up to $\frac{1}{16}$ " or 14 ga.

No.	Fit Chasis Hole	Inside Dia.	Per Doz.	Per 100	
901	$\frac{1}{4}$ "	$\frac{1}{8}$ "	15c	\$0.85	Amateurs Allowed 40% off these list prices
903	$\frac{3}{8}$ "	$\frac{1}{4}$ "	25c	1.00	
905	$\frac{1}{2}$ "	$\frac{3}{8}$ "	30c	1.10	
907	$\frac{5}{8}$ "	$\frac{1}{2}$ "	35c	1.20	
909	$1\frac{1}{32}$ "	$1\frac{1}{32}$ "	35c	1.70	
911	$\frac{1}{2}$ "	$\frac{3}{8}$ "	37c	1.50	

RUBBER BUMPER FEET



No.	Dia.	Height	Per Doz.	Per 100	
111	$\frac{1}{2}$ "	$\frac{1}{4}$ "	20c	\$1.00	Amateurs allowed 40% off these list prices
511	$\frac{3}{8}$ "	$\frac{1}{8}$ "	25c	1.50	
112	$\frac{3}{8}$ "	$\frac{1}{8}$ "	27c	1.60	
113	$\frac{3}{8}$ "	$\frac{1}{8}$ "	30c	2.00	

For 6/32 or 8/32 machine screws or No. 6 or No. 8 wood screws.



VARIABLE
LINK

AIR INDUCTORS

BARKER & WILLIAMSON • ARDMORE, PA.

SWINGING LINK ASSEMBLIES

TYPE BVL

100 WATTS RATING



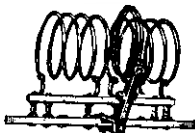
A small, unusually compact, highly efficient Assembly designed for direct mounting on condenser. Ideal for low powered transmitters and exciter stages or in conjunction with B & W Type BL coils in interstage coupling. Six interchangeable plug-in coils provide a complete range, from 5 to 160 meters.

Type	*Capacity MMfd.	Inductance Microhenrys	Net Price
160BVL	150	55	\$2.10
80BVL	70	30	1.90
40BVL	40	13	1.65
20BVL	40	3.1	1.45
10BVL	35	1.0	1.40
5BVL	25	0.5	1.35

BVL ASSEMBLY—includes swinging link and jack bar \$2.50

TYPE TVH

500 WATTS RATING



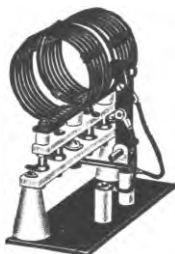
"Best yet" for those 500-watt rigs! With TVH's you obtain the same high measure of efficiency at 10 meters as on the lower frequencies. Their novel plug arrangement permits easy capacity value selection. The time-tested B&W Variable Link design assures peak performance in ALL installations.

Type	Inductance Microhenrys	*Capacity MMfd.	Wire Size	Dia.	Outside Centers	Plug Centers	Net Price
160TVH	90	90	16	2½"	6"		\$2.85
80TVH	40	50	14	2½"	6"		2.85
40TVH	16	32	12	2½"	6"		2.85
20TVH	5.7	22	12	2½"	6"		2.85
10TVH	1.35	22	6	2½"	6"		2.85
TVH Base Assembly							3.75

TYPE TVL

250 WATTS RATING

The Type TVL AIR INDUCTOR is an outstanding example of the B & W policy—to design every AIR INDUCTOR to do a specific job . . . better than it was ever done before! You'll find Type TVL Coils and Assemblies practical . . . efficient . . . exceptionally dependable for medium power applications—even under extreme operating conditions.

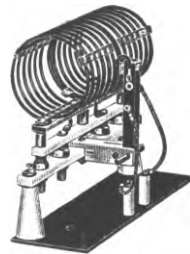


Type	Inductance Microhenrys	*Capacity MMfd.	Wire Size	Dia.	Outside Centers	Plug Centers	Net Price
160TVL	130.0	65	18	2½"	5"		\$2.25
80TVL	38.0	55	14	2½"	5"		2.15
40TVL	15.0	34	12	2½"	5"		1.90
20TVL	4.6	28	12	2½"	5"		1.65
10TVL	1.5	22	6	2½"	5"		1.60
TV Base Assembly							4.00
TA Antenna Matching Coil							1.75

TYPE HDVL

1 K.W. RATING

Here is the "King of Swing"! For all around dependability and exceptional performance in high power transmitters the heavy duty Type HDVL Swinging Link Assembly is undeniably superior, both electrically and mechanically, to any other type of coil on the market. As in all B & W Swinging Link units, an independent link and base assembly permits panel control of coupling.



Type	Inductance Microhenrys	*Capacity MMfd.	Wire Size	Dia.	Outside Centers	Plug Centers	Net Price
160HDVL	94.0	90	14	3½"	7½"		\$5.25
80HDVL	47.0	44	10	3½"	7½"		4.50
40HDVL	18.0	28	8	3½"	7½"		4.00
20HDVL	5.2	25	8	3½"	7½"		3.75
10HDVL	1.3	25	4	2½"	7½"		3.25
HDV Base Assembly							5.00
HDA Antenna Matching Coil							4.00

* TOTAL EFFECTIVE CAPACITY REQUIRED TO EFFECT RESONANCE ON LOW FREQUENCY END OF SPECIFIED BAND

B&W "JUNIORS" 75 WATTS RATING

New! Huskier! . . . "Tops" for Most Limited-Space Applications!

These new B&W JUNIORS far surpass, in ruggedness and efficiency, most of the larger, more bulky coils of comparable rating. Designed for optimum performance in oscillator, buffer, or amplifier stages operating at input powers up to 75 watts and plate voltage to 850 volts.

All types may be used in capacity coupled circuits by omitting connections to the links. (Special Junior Coils or Junior Coil Assemblies quoted upon request.)

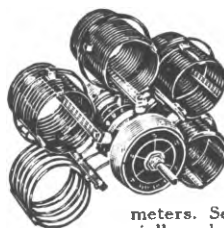


Type	Tuning Cap. Mmfd.
160 JEL	100
80 JEL	50
40 JEL	25
20 JEL	25
10 JEL	25
End Linked	
160 JCL	100
80 JCL	50
40 JCL	25
20 JCL	25
10 JCL	25
Center Linked	
160 JVL	100
80 JVL	50
40 JVL	25
20 JVL	25
10 JVL	25
Variable	
160 JVL	100
80 JVL	50
40 JVL	25
20 JVL	25
10 JVL	25
Center tapped	

Amateur net Each \$1.00
Any type, less base85
5-prong Alsimag Base35

100 WATT 5-BAND TURRETS

TYPE BCL—Center Linked, Center Tapped Coils
TYPE BEL—End Linked Coils



These B&W 100-watt Turrets set new highs in fast, positive band switching on the commonly used amateur frequencies, 10 to 160 meters. Several new features, including a specially designed switch, make them equal in efficiency to the best individual plug-in coil systems.

They're extremely compact — 7½" high; 7½" wide; depth behind panel, 4½"; shaft extension, 1". They may be used with tubes operating at 1,000 to 1,250 volts and a maximum input power of 165 watts. Each unit comes complete with frequency-marked dial plate, lock washer and nut. It may be mounted directly on the panel in a single ¾" hole. You'll find the total cost of one of these turrets and suitable condensers is actually less than the cost of components for any comparative method now available.

Amateur Net Each \$8.50

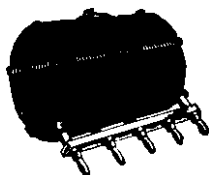
B&W

FIXED LINK

AIR INDUCTORS

BARKER & WILLIAMSON • ARDMORE, PA.

- MINIMUM DIELECTRIC IN THE FIELD OF THE COIL
- EXTREMELY LOW LOSSES • RUGGED CONSTRUCTION
- EXCELLENT APPEARANCE • LOW COST



Type HDL
(Fixed Link)

Each AIR INDUCTOR is a completely finished unit in every respect. All coils are center tapped and equipped with three banana type plugs.

The "B" series is for use in oscillator and buffer—doubler stages developing up to 100 Watts of power.

The "BX" series of coils are suitable for neutralized buffer and final tank stages with inputs up to 250 Watts.

The "T" line is especially well suited for high powered neutralized buffer and final tank stages where powers of 500 Watts are developed.

For the Amateur who wishes to use the maximum amount of power, our "HD" series of inductors are unquestionably the finest coils of their type on the market today. These inductors are capable of handling a kilowatt with ease. Equipped with oversized plugs of ample current carrying capacity.

TYPE B and BL • 100 WATTS RATING

Standard Type	Net Price	Linked Type	Net Price	Inductance Microhenrys	*Capacity MMfd.	Wire Size	Diameter	Outside Plug Centers
160B	\$1.75	160BL	\$2.50	78.0	110	18	2 1/2"	3 1/2"
80B	1.55	80BL	2.30	39.0	52	16	2 1/2"	3 1/2"
40B	1.30	40BL	2.05	12.0	43	14	2"	3 1/2"
20B	1.05	20BL	1.80	3.0	40	14	2"	3 1/2"
10B	1.00	10BL	1.75	1.1	28	12	2"	3 1/2"

TYPE BX and BXL • 250 WATTS RATING

160BX	\$1.80	160BXL	\$2.80	84.0	100	14	4"	4"
80BX	1.60	80BXL	2.60	37.0	54	14	3"	4"
40BX	1.35	40BXL	2.35	10.0	51	14	2 1/2"	4"
20BX	1.10	20BXL	2.10	2.8	45	14	2"	4"
10BX	1.05	10BXL	2.05	1.0	35	12	2"	4"

TYPE T and TL • 500 WATTS RATING

160T	\$1.85	160TL	\$2.85	74.0	115	12	5"	5"
80T	1.65	80TL	2.65	35.0	60	12	3 1/2"	5"
40T	1.40	40TL	2.40	13.5	38	12	2 1/2"	5"
20T	1.15	20TL	2.15	4.3	30	12	2 1/2"	5"
10T	1.10	10TL	2.10	1.3	25	12	2"	5"

TYPE HD and HDL • 1 K.W. RATING

160HD	\$4.25	160HDL	\$6.25	94.0	90	10	5"	7 1/2"
80HD	3.50	80HDL	5.50	40.0	50	10	3 1/2"	7 1/2"
40HD	3.00	40HDL	5.00	15.0	35	8	3 1/2"	7 1/2"
20HD	2.75	20HDL	4.75	4.2	29	8	3"	7 1/2"
10HD	2.25	10HDL	4.25	1.3	25	4	2"	7 1/2"

* CAPACITY REQUIRED TO EFFECT RESONANCE ON LOW FREQUENCY END OF SPECIFIED BAND.

A68-P1—Network Coil—Complete with clip.....\$1.85

B&W LOW-POWER COILS and BAND SWITCHING ASSEMBLIES



B&W "BAND-HOPPERS"

The Mighty Midgets of Band Switches!

Sturdy, unbelievably compact, low in price! These reliable practical units are now available in two completely redesigned units . . . improved throughout. Cover all five bands, yet require very little space. Panel control.

Model 2A—(25 Watt Rating)—For interstage coupling with beam power tubes. Net \$3.25

Model 2AB—(50 Watt Rating)—For interstage coupling between beam power tubes and triodes or high-powered beam tubes. Net \$3.50



"BABY" AIR INDUCTORS

(25 Watt Rating)

Just the thing for crowded layouts, portables, field transmitters! The smallest, most efficient, most practical 25-Watt coils ever available to amateurs. "BABIES" measure only 1 1/2" x 1 1/4", are made by a special B&W process which insures perfect air-spacing, maximum strength, fine appearance and ultra-high efficiency with an absolute minimum of insulating material. Available in five types, from 10 to 160 meters. Conservatively rated. Universal 5-prong Alsmag 196 bases. Net, Any Type.....\$0.75

Straight Coil	Center Tapped	End Linked	Center Linked	Inductance	*Capacity
160M	MC	MEL	MCL	90	90
80M	MC	MEL	MCL	40	50
40M	MC	MEL	MCL	14	35
20M	MC	MEL	MCL	3.5	35
10M	MC	MEL	MCL	1.1	30

*Total effective capacity required to effect resonance on low frequency end of specified band.



"BABY" TURRETS

35-Watt Rating

These compact 5-band switching units cover amateur bands from 10 to 160 meters. They may be tuned in all types of service with any of the 100 mmfd. midjet condensers. Their sturdy construction and unique design assure permanent coil alignment and maximum efficiency with a minimum number of tubes. Four types — BTM, straight untapped; BTCT, center tapped; BTEL, end linked and BTCL, center linked—provide vastly improved band-switching efficiency in low-power transmitters and exciter stages. Net, Any Type.....\$5.25

CARRON Cones

Our No.	O.D.	List
ADMIRAL		
★1020-A-126, 5X	6½	\$1.75
AIRLINE (Montgomery Ward & Co.)		
★1473-62-274, 62-288, 62-290, 62-350, 62-351, 62-352	5	1.25
ARISTON		
★1332-A, used in: Detrola 140; Fada 358D	5	1.25
1462-Used in: Kadette 1149; Fada 365C, 366C; LaFayette F-647	8	2.00
ARVIN		
★1418-467, 518	5	1.25
★1439-17, 518, 568	5	1.25
ATWATER-KENT		
1000-Pt. No. 15142, 43, 46, 55, 60, 64, 66, 67, Speaker F4	10%	2.25
1001-Pt. No. 14374, 43, 46, 55, 60, 64, 66, 67, Speaker F2	10%	2.25
BELMONT		
★1461-602C, 881	5	1.25
BOSCH		
★1325-505, 430J, 430, 430T, 431, 431J, 431T, 434, 434J, 434T, 501, 620, 623A, 625, 634A, 640, 565W, 565K, used in Westinghouse WR209, WR211	7	1.50
CHEVROLET		
★1563-Model 985-460 (Radio Speakers)	7½	2.25
★1570-Model 985-285 (Magnavox)	8	1.50
1552-Model 985426 (Magnavox 1D-140)	5½	1.25
1561-Model 985424 (Rola)	7½	2.00
CROSLLEY		
★1212-167, 103, 5A1, 353-8, 385	6½	1.25
★1373-516	5½	1.25
★1450-A157, 517, 547, 5517 (Utah CV-27)	5	1.25
1494-717	8	2.00
EMERSON		
★1505-BA199, BA201	5	1.25
1562-AX211, 4X5-324, (Radio Speakers, Paper Spiders)	4	1.00
1564-CT275 (8TS-396), 6JS-368-U, (Radio Speakers)	4	1.00
*GENERAL ELECTRIC		
*1378-A52, A55, A64, A85, A70, A83	8	1.25
*1379-A3, E62, A63, U70	6¾	1.00
*1409-E61, E71, E72, E81, E91, E95, E101	8	1.25
*1425-E61, E68, E79, E81, E86, E26, E105, E115	12	2.00
GRUNOW		
1254-650, 651, 661, 670, 750, 8A3, 8A4, 8C4, used in Chevrolet 600565, 600249, 985500	8½	2.25
1255-450, 628, 660, 662, 4A, 4B, 4C, 6C, 8B1, 8B2, 8B3, 8BG2-5, 8BG1-4, 8C7	7¾	2.25
1183-671, 701, 751, 752, 753, 801, 1152, 1182, 10A1, 10A3, 10A4, 10A5, 10A10, 6D	10	2.75
1256-901, 902, 1101, 15, 1541, 1291, 12A1, 12A2, 12A6, 12G4-1	12	2.90
1327-6M, 108C2, 108C9, 108C10	10	2.75
JENSEN		
1035-D7, D8, used in: Dayton Navigator; Sparton 737, 921; Silver Marshall "C", etc.; Airline 29-55; Edison R4, R5, etc.; Grebe AHI, SK4; Gulbrandsen 727; Howard "Green Diamond"; Kennedy 22, etc.; Sentinel 104	11½	2.90
1037-D9 inside spider-used in: Airline 89, 24; Crosley 124, 127; Howard AVH-P; Kennedy 50, etc.; Silver Marshall A, B, C; Zenith AE, RE, CE, 090, 90, 91, 92, V8	11½	2.75
★1286-F8R, used in: Belmont 580; Emerson 250W	5	1.25
★1285-F6R, used in: Belmont 777; Kadette 85; Motorola 75	6½	1.50
1332-F8R	8	2.00
1331-X12-1½" Voice Coil	12	2.90
1333-X12-1" Voice Coil	12	2.90
1371-X12, C12R, 1¼" V. C., used in Zenith 6V82	12	2.90
★1138-T1, T2, used in: Detrola ST; Freshman 275; Lyric C4	5	1.25
1384-PM12C	12	2.90
1429-PM8D, E8R, used in Motorola 65, 70	8	2.25
1478-PM10C	10	2.75
1548-PM8DS, PM9GS	8	2.25

Our No.	O.D.	List
LYRIC "WURLITZER"		
1143-S80, SA90	8	2.00
1390-112 (Magnavox 302)	12	2.90
MAGNAVOX		
1048-D7, D6, D8, D80, D90, D100, used in: Bosch 29; Everready 36, 40; Kellogg 523; Newcomb Hawley N19; Sparton 737, 931	8½	2.75
1200-154D, 48C, 158, 168, 254PAM, 2 pt. used in: Motorola 88, 60, 100; Crosley 825-4, 7H2; Chevrolet 601308, 985225, 985400; Hudson DB37; Oldsmobile 405-062	8	2.25
1316-132, 162, used in Zenith 862, 1162, 811, 812	11½	2.90
1221-152X, 252PM, 160, 170, used in Crosley 170	10	2.75
★1242-195, used in: Crosley 5M3; Stewart Warner K153	5	1.25
★1369-1-D-76, used in: Chevrolet 985-301, 985200; Crosley A366, 515; Delco R640, 631A, 4099; Emerson 107; RCA 67M; Truetone 667; United Motors 985200	5½	1.25
MAJESTIC		
1058-G1, 71, 72	9	2.25
1059-G2, 71, 72, 91; 92, 181	9	2.25
1060-G3, 90, 91, 93, 101, 102, 103	10	2.25
1067-G10B, G10C, G10D, G10E, 151, 153, 154, 155, 156	7½	2.00
1071-G19A, G19B, G19C, G19D, G19E, G, 291, 293, 294, 303, 304, 324, 311 used in Columbia C19A, etc.	10	2.25
★1156-G24, 116-Ford Auto	6	1.50
★1158-G26A, G26C, 371, 373, 411, 413, 411A, 413A	5	1.25
MOTOROLA		
1573-(Quam) 8-40	6½	1.50
OPERADIO		
★1172-06Z, used in: Airline 96, 98, 104; Arvin 10; Belmont 575; Sentinel 560; Wells Gardner 05Z, 05A, 05BA	5	1.25
1222-12A221, used in: Airline 62-106, 62-107, 62-121, etc., Mills Novelty	10	2.75
★1204-1866, 222, 219, used in: Airline 62-177, 62-178, 62-175, etc.; Arvin 20A, 25, 29; Chevrolet 985-252; Colonial 164; De Wald A608, 617; Goodyear 741; Howard 4100A; Sentinel 609; Silver-tone 5088; Wells Gardner 7J; Zenith 58127, 6M90, 68239	6½	1.50
★1417-M5, used in: Airline 62-475, 62-425; Arvin 18; Emerson K123, U6D; Silvertone 9103X	5	1.25
★1415-12A234, used in: Airline 62-236, 62-263; Belmont 666; Chevrolet 985200; Delco 640, 631A; Gamble Skogmo 6L; Wells Gardner 6L, 6C1; Zenith 6M91	5½	1.25
OXFORD-TARTAK		
★1353-5A, 2 pt. Spider-used in Detrola 4F, 4J, etc.	5	1.25
PHILCO		
*1078-36-3170-40, 41, 65, 76, 77, 87, 90L, X, 95, 96, 111L, 112L, X, 296	10½	1.40
*1345-36-3485-NT-7, ST-7X, NT8, 803, 806	6½	1.00
*1343-36-3526-FT-9, MT-14X4, NT-12X, NT-15, N1433, N1434, PT-14, P-1432, RT-14X, ST-12, ST-15, S1416, S1431, S1437, S1526	5½	1.00
*1467-36-3540-624B, F, K, 651B, 905 Amplifier, 37-38B, F, 37-623B, T, code 121-125, 37-624B, code 121-125, 37-641B, code 121-125, 37-643, 38-22T, 38-23T, 38-33F, 38-34F, 38-35B, F, 38-38T, 38-39T, 38-40T, 38-250B, 38-623T, 38-624, 38-643, 905	7½	1.00
*PHILCO		
*1466-36-3557-651X, 37-38J, 37-623J, K, 37-624J, code 121-125, 37-641X, MX, 322X, 38-23X, K, 38-38X, K, 38-39X, K, code 121, 37-643X, 38-38-40K, X, 38-250T, X, 38-623X, K, 38-624, code 121-125, 38-643	10½	1.40

Our No.	O.D.	List
PHILCO (Cont.)		
*1377-36-3586-F1440, F1440X, F-1442, F1442X, G-1418, L1425, L1429, N1418, N1514, N-1524, P1417, P1422, P1517, R1415, S-1516, W1419	6½	1.00
*1481-36-3627-37-610J, code 121-125, 37-611J, 37-620J, code 121-125, 37-2620J, 38-8X, 38-9K, X, 38-10J, 38-89K, 37-611J, 38-610	10%	1.40
*1249-36-3631-14X, code 124-122, 14L, code 122, 14RX (code 123), 16L, X, RX, PX, 17L, D, RX, X, 500, 501, 37-675X, MX, code 121	10%	1.40
*1079-36-3824-20, 21, 70B, H, 86, 90B, H, 270, 470, 490	8%	1.25
*1489-36-3981-38-12, code 121, Run 1 to 5, 38-14, code 121, 38-15, code 121, 38-17T	5½	1.25
*1529-45-1344-38-12, code 121, Run 6, 920	5½	1.00
*1455-45-2808-F1540, G1528, 926	6½	1.00
*1501-C1550	7%	1.00
1248-02625-14LZX, 15X, 16B, 17B, 18D, H, L, X, 19H, X, LZX, 23X, 25L, 27L, 29X, CSX, TX, 43L, 44X, H, TX, 43L, 44X, H, 47H, X, code 123, 49X, D, H, 71H, X, 91X, L, H, 97H, D, X, 98X, 116B, 118RX, H, X, D, MX, 144H, X, 260L, 261L, 500, 503L, 504L, 506L, 507L, 630X, PF, 635X, 640X, 641F, 645X, 650RX, 655X, H, 660X, 665X, 37-9X, 37-10X, code 121-125, 37-11X, code 121-125, 37-630, code 121-125, 37-640X, 37-650X, 37-660X, 37-665X, 37-670X, 37-2610X, 37-2670X, 38-2X, 38-38X, 38-4X, 38-5X, 38-7X, 38-665X, 38-2670X	10½	1.40
*1203-02861-28C, 29TX, 45C, 48B, C, 50B, 51B, 52B, C, L, 56, 80B, P, 81B, 810B, 620, 611B, Transitone Auto Radio 5, 5T, 11, C7D, D1, DPY, FT-5, FND, HRD, NJD, SJD, FN	5½	1.00
*1244-36-3029-54, 57, 58, 59, 600, 602, 604, 37-600, 37-602, 37-604	5½	1.00
*1246-36-3157-34B, L, 38B, L, F, 60B, L, 66B, L, 84B, 260B, 267B, 810B, 611F, 620F, F, 625B, J, 37-840F, 37-89B, F, 38-9T, 38-10T, 38-14CX, 38-15CSX, 38-17F, 38-60F, 38-62B, F, 38-89B, 38-930B, 38-610B, 38-2620B, code 125, 37-600, F, 37-61B, F, 37-62B, F, 37-93B, 37-610B, T, code 121-125-126, 37-611B, F, T, 37-620B, code 121-125, 37-2620B, code 121, 700, 2620, 2625, CGD, CGDU, HGD, NQD	7½	1.00
*1245-36-3159-10, 14B, 14LZX, 15X, 16B, 17B, 18B, 19B, LZ, 22L, 23X, 25, 26, 29L, D, F, CSX, 32B, L, 34, 39B, 43B, H, X, 44B, 45L, F, 46B, 47B, H, D, X, 49, 71B, D, H, L, 74B, L, 89B, H, L, 91B, X, L, D, 90H, 97B, 98B, 116B, 118B, 144B, 261B, 505L, 610PF, 623B, F, 630B, 635B, 640B, 642B, F, 641B, 643B, F, 645K, 650B, 655, 37-620, CSX, 37-630T, code 121-126, 37-640B, 37-650B, code 121, 37-660B, 37-665B, 37-670B, 37-675B, 37-2620, CS, 37-2650B, 37-2670, 38-5B, 38-7B, 38-640, 38-665B, Transitone Auto Radios 6, 7, 8, 9, 10, 12, 800, 802, 808, 809,	10½	1.40

CARRON Cones (con.)

Our No.	O.D.	List	Our No.	O.D.	List	Our No.	O.D.	List
PHILCO (Cont.)			*RCA-VICTOR (Cont.)			UTAH (Cont.)		
818K, 819, 827K, 828K, 2645, GGD, CGDU, CT2, CT3, CT10, CT11, C1423, C1450, C1452, HGD, HHD, HT2, HT11, L1420, L1424, L1427, L1460, L1560, MED, NCD, NDD, NQD, PT5, PT14, P1421, P1426, P1430, P1530, P1535, SCD, SDD, C1608, T-H-4		7 3/4, 6, 1.00, 4, 1.00	*1385—Pt. 11258, RL-70, 6T2, 6K2, T6-11, C6-12, TU, T78, C7-6, D7-7, D8-28, C9-6, T-9-9, D9-19	12	2.00	1119—Little Giant No. 1, inside Spider, used in: Airline 33-25, 62.00, 11,000, 326W; Isodyne 700, 749; Kennedy 50, 63, 64; Zenith LH, BH, WH, 2022, 7 3/4		2.00
*1500—			*1391—Pt. No. 12642, 6T5, 5BT, 5U, 7T1, 5T, 5X2, 6T, 6K, 9T, 7T, 10T, 8T5, 810F, 86BK, 86BT, U101, R96, R97, ACR111, 86T4	8	1.50	1121—Little Giant No. 3, 3 Pt. Spider, used in Airline 62-60, 7 3/4		2.25
1542—			*1392—Pt. 13667, 14934, 5T6, 5T7, 5T8, 6M, 6M2, M101, M104, 6T11, 86T, 86T1, 87T, 86T3, 87T1, 86T6, also used in: Silvertone 1988; Westinghouse W1203, 305; Hudson SA37, 6 1/2	1.00		1123—Stadium 66A, 66B, used in Airline 29-55, 3065, 11 1/4		2.75
QUAM-NICHOLS			ROLA			1230—12B, 3 Pt. Spider, 16 ohm V.C. 12		2.90
*1198—Long Spider, used in: Aetna 4154W; Belmont 401A; Detrola 6R; Emerson A; Motorola 44; Simplex 5C; Sparton 62; Tif-Tanytone 69; Wilcox Gay 4196	5	1.25	*1167—F4, used in: Belmont 525, 623; Crosley 167; De Wald; Emerson U4B, 108; Fada 358D, 5	1.25		*1201—5D, used in: Airline 62-660; Atwater Kent 155, 424, 534; Emerson KS38, 678, C6D; Grunow 501, 550; Motorola 44; United Motors 4048; U. S. Apex 3218, used in: Crosley 515; Grunow 520, 5		1.25
*1267—Long Spider, used in: Sentinel 510; Sparton 616, 6	1.50		*1282—DP4, used in: Belmont 670; Emerson USA, J, U60, 5	1.25		1457—1220, CU29, 12		2.90
*1387—Oval Spider, used in: Air King 260; Motorola 35, 5	1.25		*1281—DP5B, used in: Colonial R-11553; Crosley 166; Delco 631, 629, etc.; GM 405063; Pontiac 544289, 6 1/2	1.50		1470—E12P, 12LP, 12FG6, 12		2.90
*1388—Oval Spider, 6	1.50		1315—G12, 12	2.90		1482—G1225, 12		2.90
*RCA-VICTOR			STEWART WARNER			1483—GT13, F12P, 12		2.90
*1104—Pts. 7442, 7236, 8921, 8820, 8902, R4, R25DC, R5, R5DC, R5X, R24, R71, M30, P31, M32	7 1/2	1.25	1096—R306, A207, R204A, R110, 103A, 104A, R115A, R218A, 205, 210, 208, 223A, 8	2.25		U. S. APEX GLORITONE		2.25
*1089—Pt. 8601, R, R7, R7A, R7DC, R9DC, R7LW, R8, R8DC, R9, R10, R10DC, R11, R12, RE16, RE16A, RE18, RE19, R21, R22, RAE28, R48, R48, 10 1/4	1.50		*1398—Pt. 85119, R232, R131, 124	1.50		1104—26, Speaker 2286, 8 1/2		2.25
*1236—Pt. 8987, R228, R22W, R28, R28P, RE40, RE40P, R100, R101, R110, R111, R14, 115, M116, 300, 301, 5	1.00		1456—R273, 8	2.25		*VICTOR		
*1088—Pt. 8558, RE20, Victor R35, R39, RE57, RE73, 46, R50, R55, RAE59, 62, 64, 66, 67, RAE68, RAE79, 80, 82, 86, 10 1/2	2.00		UTAH			*1124—R32, R35, E35, RE45, R52, R75, E135, E152, RE154, RE156, 9		1.75
*1313—Pt. 8969, R24A, R30P, 140, 140B, 141, 141E, 220, 222, 240, 242, 261, 262, 263, 280, 321, 327, 330, 331, 340, 340E, 341, 380, 380HR, 10 1/4	1.50		1117—Large Cub No. 2, 2 Pt. Spider, used in: Airline 45, 47, 49, 52, 70, 72, 76, 79, 84, 94, 62-120, 62-123, 61-126, 62-128; Crosley 124	7 3/4	2.25	WELLS-GARDNER		
*1091—Pt. 9023, 34, M105, 5	1.00		1118—Large Cub No. 3, 3 Pt. Spider, used in: Airline 45, 47, 49, 52, 70, 72, 76, 79, 84, 94; Chevrolet 600249; Apex 7D, 12B; Good-year 880; Zenith 210, 215, 216, 220, 230, 250, 260, 272, 475, 760, 970, 7 3/4	2.25		*1447—6K, 6 1/2		1.50
*1225—Pt. 9438, Pt. 9492, R37, R37P, R38, R38P, 112, 121, 122, 124, 126B, 310, 320, 241B, M107, 118, M123, ACR136, 6 1/2	1.00		AUTOMOBILE SPEAKER CONES			*1490—6J, 6 1/2		1.50

UNIVERSAL FIELD COILS



The Carron Universal Field Coil has been developed to permit servicing countless speakers for which there is no exact duplicate coil listed. The thirty-one coils listed here cover the majority of speaker sizes and resistances.

In the design of a universal field certain requirements must be met: The winding must be physically close to the original. We have allowed a maximum variation of 1/8 inch spacing from coil to core, a variation in width of 3/4 inch; and we suggest that the universal coil selected should have a diameter as close to the original as possible—3/8 inch smaller is the limit for safe operation. Two equal windings are used rather than taps which would reduce the number of ampere turns available and also cause serious heating. All of the wire in Carron universal field coils is in use at all times.

Two resistance ranges are possible. One with the windings in parallel and the other with the windings connected in series. Since a change of field resistance will disturb the operating voltages in the circuit, we have chosen a working range that is conservative, plus or minus 10%. In some cases this range could be increased, but for best results it represents the safe limit. To allow the ranges stated, it is necessary that each Carron Universal field Coil be wound and tested for exactly the mean resistance for each range.

Carron Field Coils should be selected from the following table. Check maximum and minimum dimensions carefully. Spacing washers and tubes are furnished to permit fitting the coils to the speaker. Complete directions furnished with each coil.

Cat. No.	Pole Piece		Length		Parallel Resistance	Series Resistance	List Price	Cat. No.	Pole Piece		Length		Parallel Resistance	Series Resistance	List Price	
	Min.	Max.	Inches	O.D.					Min.	Max.	Inches	O.D.				
U300	3/4	1	2	3/4	1	1000	\$1.50	U306C	1 1/2	1 1/2	2 1/4	1 1/2	1 1/2	675-825	2700-3300	\$3.10
U301	3/4	1	2	3/4	1	1500	1.50	U306D	1 1/2	1 1/2	2 1/4	1 1/2	1 1/2	900-1000	3600-4400	3.10
U302	3/4	1	2	3/4	1	2000	1.50	U306E	1 1/2	1 1/2	2 1/4	1 1/2	1 1/2	1125-1375	4500-5500	3.10
U303	3/4	1	2	3/4	1	2500	1.50	U307A	1 1/2	1 1/2	2 1/4	1 1/2	1 1/2	375-460	1500-1800	3.10
U304	3/4	1	2	3/4	1	3000	1.50	U307B	1 1/2	1 1/2	2 1/4	1 1/2	1 1/2	560-690	2250-2750	3.10
U309	3/4	1	2	3/4	1	450	1.50	U307C	1 1/2	1 1/2	2 1/4	1 1/2	1 1/2	675-825	2700-3300	3.10
U311	1 1/2	2	2 1/2	5/8	7/8	450	1.00	U307D	1 1/2	1 1/2	2 1/4	1 1/2	1 1/2	900-1100	3600-4400	3.10
U312	1 1/2	2	2 1/2	5/8	7/8	1000	1.00	U307E	1 1/2	1 1/2	2 1/4	1 1/2	1 1/2	1125-1375	4500-5500	3.10
U313	1 1/2	2	2 1/2	5/8	7/8	1500	1.00	U308A	1 1/2	1 1/2	2 1/4	1 1/2	1 1/2	375-460	1500-1800	3.10
U314	1 1/2	2	2 1/2	5/8	7/8	2000	1.00	U308B	1 1/2	1 1/2	2 1/4	1 1/2	1 1/2	560-690	2250-2750	3.10
U315	1 1/2	2	2 1/2	5/8	7/8	2500	1.00	U308C	1 1/2	1 1/2	2 1/4	1 1/2	1 1/2	675-825	2700-3300	3.10
U316	1 1/2	2	2 1/2	5/8	7/8	3000	1.00	U308D	1 1/2	1 1/2	2 1/4	1 1/2	1 1/2	900-1100	3600-4400	3.10
U305A	1-1 1/4	2 1/2	1 1/2	1 1/2	1 1/2	375-460	3.10	U308E	1 1/2	1 1/2	2 1/4	1 1/2	1 1/2	1125-1375	4500-5500	3.10
U305B	1-1 1/4	2 1/2	1 1/2	1 1/2	1 1/2	560-690	3.10	U309E	1 1/2	1 1/2	2 1/4	1 1/2	1 1/2	375-460	1500-1800	3.10
U305C	1-1 1/4	2 1/2	1 1/2	1 1/2	1 1/2	675-825	3.10	U310A	1 1/2	1 1/2	2 1/4	1 1/2	1 1/2	560-690	2250-2750	3.10
U305D	1-1 1/4	2 1/2	1 1/2	1 1/2	1 1/2	900-1100	3.10	U310B	1 1/2	1 1/2	2 1/4	1 1/2	1 1/2	675-825	2700-3300	3.10
U305E	1-1 1/4	2 1/2	1 1/2	1 1/2	1 1/2	1125-1375	3.10	U310C	1 1/2	1 1/2	2 1/4	1 1/2	1 1/2	900-1100	3600-4400	3.10
U305F	1-1 1/4	2 1/2	1 1/2	1 1/2	1 1/2	375-460	3.10	U310D	1 1/2	1 1/2	2 1/4	1 1/2	1 1/2	1125-1375	4500-5500	3.10
U306A	1-1 1/4	2 1/2	1 1/2	1 1/2	1 1/2	1500-1800	3.10	U310E	1 1/2	1 1/2	2 1/4	1 1/2	1 1/2			
U306B	1 1/2	2 1/2	2 1/4	1 1/2	1 1/2	2250-2750	3.10									

CARRON Accessories



CARRON SPEAKER CONE CEMENT

Made Particularly for Speaker Work.
Fast Drying, Quick Adhesion

This cement is of the all-purpose type, and can be used in many of your repair jobs.

List Price42c

CARRON DIALUMINATOR

A Dial Lite Coloring Kit, consisting of five ¼ oz. jar type bottles, having large opening for easy dipping. Four colors: red, green, blue and brown. One bottle of solvent. List.....50c



CARRON RADIO REPAIR CEMENT KIT



Carron Radio Repair Cement Kit manufactured expressly for greater repair work. Kit consists of one two-ounce metal can of cement, one two-ounce metal can of thinner, together with brush. Used for cementing leads, voice coil, R.F. coils, chokes, etc. The thinner is used for loosening wires, breaking down cemented parts, etc. If cement hardens mix thinner with it, and the cement will become as efficient as ever.

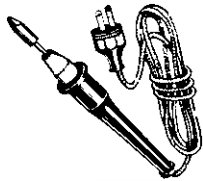
This cement and thinner is the same as that used by many of the leading speaker manufacturers in the country. For efficiency in your speaker repair work, use Carron Cement Thinner, and avoid the difficulties which accompany all experimentation.

List Price 62½c per Kit

	Cement	Thinner
½ pint can.....	List \$1.00	\$0.75
1 pint can.....	List 1.75	1.25
1 quart can.....	List 3.00	2.00

CARRON MIDGET SOLDERITE KIT

Smallest Electric Soldering Iron
On the Market



Length 7 inches overall. Weight 5½ ounces including cord and plug. Operates on either AC or DC Current. Handy. Compact. Practical. Heats instantly. Stays Hot. Full 20 watt rating—with special patented design for concentrated heat that permits work of bigger soldering irons.

No. 105—110 Volt AC or DC..... List \$1.25
No. 106—For 6 Volt Battery, Especially for Farm Use..... List 1.50

CARRON PHONO PICK-UP COILS



Our No.	Mfrs. No.	Type	Model	Imp. Ohms	List
250		Audak		200	\$0.75
251		Audak		500	.75
252		Audak		10,000	.75
253		Emerson	L, L143	High	.75
254		Majestic G-6		All Low	.75
261	2254	RCA-Victor			1.25
262	2314	RCA-Victor			.75
263	2769	RCA-Victor			.75
264	3385	RCA-Victor			.75
			RE80, R92, 320, 322, 322E, 327, 16A1, 16A2, 17A1, 17A2, 17B1		
265	3810	RCA-Victor	R93	Low	.75
266	6826	RCA-Victor	301	200	.75
267	10777	RCA-Victor	R32, RS2, RE45	500	.75
272		RCA-Victor	R95	5,000	.75
268		Stromberg-Carlson	846	500	.75
255		Upeo	M	2,500	.75
256		Upeo	M	5,000	.75
257		Upeo	M	5,000	.75
258		Upeo	25	500	.75
259		Upeo	25	2,500	.75
260		Upeo	25	10,000	.75
273		Webster	(wound on celluloid form)		
				Hi! Imp.	.75

UNIVERSAL PHONO PICK-UP COIL

Our No.	Impedance	Dimensions				List
269	Low	"A"	"B"	"C"	"D"	\$0.75
270	Medium	"A"	"B"	"C"	"D"	.75
271	High	"A"	"B"	"C"	"D"	.75

PHONO PICK-UP REPAIR SERVICE

We will completely clean, overhaul, any phonograph pick-up sent to us. This repair service consists of installing new coil and damping blocks, remagnetizing the magnet and any other repairs such as re-taping needle holder, etc.

IMPORTANT

The pick-up must be sent to us complete with the defective coil included since we are unable to duplicate the impedance without it. The make and model of the radio from which it is taken should be included with the order.

PRICE FOR COMPLETE OVERHAUL JOB—NET \$165

CARRON HEADSETS

"PRO" PROFESSIONAL HEADSET



The lightest professional headset on the market. Combined weight of the two units is only three ounces. Bakelite shells and caps. Special cast nickel alloy magnets. Adjustable fabric covered adjustable headband with flexible 5 ft. tinsel cord. Special high impedance magnetic assembly of the bipolar type. No other magnetic type headset excels the sensitivity and response characteristics of the Carron "Pro."

DOUBLE HEADSETS

HP120—HPAPE—2000 ohm (7000 ohm imp. at 400 cycles)..... List \$3.25
HP121—HPASE—4000 ohm (12500 ohm imp. at 400 cycles)..... List \$3.40

SINGLE HEADSETS

"Special Adjustable Headband"
HP126—HPAXE—1000 ohm (3600 ohm imp. at 400 cycles)..... List \$2.00
HP127—HPAVE—2000 ohm (6260 ohm imp. at 400 cycles)..... List \$2.00

"SUPER R-9" HEADSET



A light, sensitive, comfortable amateur phone, the Carron "Super R-9" Head Sets incorporate the same features and construction as our professional model. The case is buffed aluminum and the carpiece cap is of moulded bakelite. These sets are furnished with an adjustable double head band.

DOUBLE HEADSETS

HP122—HPAPE—2000 ohm (7000 ohm imp. at 400 cycles)..... List \$2.30
HP123—HPAGE—4000 ohm (12500 ohm imp. at 400 cycles)..... List \$2.65

SINGLE HEADSETS

HP128—HPARE—1000 ohm (3500 ohm imp. at 400 cycles)..... List \$1.25
HP129—HPACE—2000 ohm (6260 ohm imp. at 400 cycles)..... List \$1.45

"R-9" HEADSETS



The Carron "R-9" has many of the fine features of our professional model. The same bi-polar magnetic assembly is used, permitting high impedance and sensitivity comparable to the best. Spun and buffed aluminum cases and caps. A double adjustable head band is furnished. Their light weight and fine performance make these phones especially suitable for the amateur and short wave fan.

DOUBLE HEADSETS

HP124—HPANT—2000 ohm (imp. 600 ohm at 400 cycles)..... List \$2.00
HP125—HPADE—4000 ohm (imp. 11000 ohm at 400 cycles)..... List \$2.20

SINGLE HEADSETS

HP130—HPALE—1000 ohm (imp. 3000 ohm at 400 cycles)..... List \$1.10
HP131—HPATM—2000 ohm (imp. 6000 ohm at 400 cycles)..... List \$1.30

All CARRON HEADPHONES are made with the newly developed Aluminum-Nickel-Iron P.M. material. Higher coercive force for greater performance.

CARRON Coils

EXACT DUPLICATE REPLACEMENT COILS

Our No.	Model	List Price
AIRLINE, TRUETONE, ARCADIA, WELLS GARDNER, etc.		
D4389	02A, 07A, 62-106, 62-107, 62-121, Antenna less shield	\$1.25
D4470	02A, 07A, 62-106, 62-107, 62-121, Int. R.F. less shield	1.50
D4033	02A, 62-89, 3rd IF, less shield	1.50
D4434	0C, 7D, 62-132, 158, 165, 167, 173, Antennut, less shield	1.50
D4034	0C, 7D, 62-152, 158, 165, 167, 173, Int. RF, less shield	1.50
D4514	07A, 1st IF & Osc. less shield	2.25
D4391	62-179, 194, 195, 206, 216, 218, 3rd IF complete (improved model)	2.50
D4390	53, 62-25, 26, 2nd IF complete (improved model)	2.50
D4385	62-93 -st IF & Osc.	2.25
APEX		
D4014	5A, 25, 25A, 1st IF & Osc. (Replaces all circuits)	2.50
D4151	9, 19, 7A, 99, 1st IF & Osc.	2.50
D4512	7A, 99, 2nd IF Complete	1.50
D4161	24 (Chassis 400), 1st IF & Osc. Complete	3.00
ATWATER KENT		
D4411	L, No. 1 RFT. (Ant.)	1.00
D4182	40, 42, 44, 45, 46, 52, RF Coupling Trans.	.40
D4066	55, 55C, 55F, 60, (60 Early) Antenna	1.25
D4413	55, 55C, 55F, 60, (60C Early) 2nd RF	1.25
D4459	55, 55C, 55F, 60, (60C Early) 3rd RF	1.25
D4589	165, 165Q, 185, 525, Antenna	1.25
BELMONT		
D4003	50B, 50C, 50D, 51, 52, 53, 54C, 1st IF & Osc. com.	2.50
D4004	50B, 50C, 50D, 51, 52, 53, 54C, 2nd IF	1.50
D4989	70A, 71C, Osc.	1.20
D4452	675, 2nd IF	2.50
BOSCH		
D4981	04, Ant.	1.20
D4988	605, 605C, Osc.	2.20
CLARION		
D4398	100, 220, 1st IF & Osc	2.50
D4074	100, 220, 2nd IF Coil only	1.00
D4170	260, 280, 1st IF Coil only	1.00
D4126	260, 280, 2nd IF Coil only	1.00
CROSLLEY		
D4169	Bi-filar Output, IF, used in 122, 3, 4, 124-1, 125, 126, 126-1, 127, 127-1, 128, IF Freq. 175 KC	1.00
D4400	1st & 2nd IF, two section wood bobbin used in some of the above models	1.00
D4599	Bi-filar output IF, single section wood bobbin construction. See above	1.00
D4163	505, 15, 25, 5515, Ant.	1.00
D4456	505, 15, 25, 5515, Osc.	1.00
D4973	628B, 638, B.C. & S.W., Ant.	1.20
EMERSON		
D4710	AC130, 149, 168, Osc.	.80
D4950	AC130, 149, 169, Ant.	1.20
D4708	C5, L, 117, 122, 133, 135, 141, 143, Osc.	1.00
D4954	E, A1170, 172, 181, AR165, 166, 177, 171, 173 174, 176, 180, 185, Ant.	2.40
D4955	R, R152, 158, Ant.	1.00
D4934	K, K116, 121, 123, Ant.	1.40
FAIRBANKS MORSE		
D5059	8A, RF Coil only	2.60
D060	9A, RF Coil only	2.60
D5061	12A Osc. Coil only	1.60
GENERAL ELECTRIC		
D4930	F63, 65, 66, Ant.	1.40
D4932	F101, 105, 106, (Code 116) Ant.	1.20
GRUNOW		
D4473	11G, 1191, B, B.C., Det. (Solid Wire)	1.00
D4479	11G, 1191, B, B.C., Det. (Litz Wire)	1.00
D4475	11G, 1191, B, B.C., Ant.	1.00
D4409	11G, 1191, B, B.C., Osc.	1.00
D4476	12B, 12W, 1291, B.C., Ant.	1.00
D4946	12B, 12W, 1291, B.C., Det. (Solid Wire)	1.00
D4756	12B, 12W, 1291, B.C., Det. (Litz Wire)	1.00
D4742	12B, 12W, 1291, B.C., Osc.	1.00

CARRON AUDIO BEAT FREQUENCY OSCILLATOR KIT



MODEL CCA

An audio oscillator covering the range of 20 to 16,000 C.P.S. with a maximum distortion of only 2% over 100 C.P.S. • Over 40" of dial results in ease of reading and accurate reset. • The use of permeability tuned identical coils with silver mica tank condensers permits unusual stability. Actually maximum error 5% from a cold start. • Output voltage 15V. RMS. to a 100,000 ohm load—flat \pm 1 D.B., 100-16,000 C.P.S. • A 6U5 electron ray indicator is used to provide an easy check with the 60 cycle supply voltage for constant check of frequency. • Six tubes are used, including a 6U5 "eye" tube. • The unit is housed in a 7" x 9" x 7" metal cabinet. • Circular 75A describes the circuit, parts layout and parts list—it is available on request.

The net price of the basic Carron CCA kit is\$9.57*

Our No.	Model	List Price
KADETTE		
D4679	1019, Ant.	1.10
MAJESTIC (Grigsby-Grunow)		
D4035	15, 150-151, 153, 154, 155, 156, 1st IF & Osc.	2.50
D4089	15, 150-151, 153, 154, 155, 156, 55-56-57-58, 2nd IF	1.50
D4121	20-21, 22, 23, 1st IF	2.50
D4122	20-21, 22, 23, 2nd IF	3.00
D4172	55-56, 57, 58, 1st IF & Osc.	3.00
D4094	60-61, 62, 1st IF	3.00
D4095	60-61, 62, 160-163, 2nd IF	3.00
D4175	200-201, 203, 204, 1st IF	2.00
D4212	460, 490, 520, 800, 460, 461, 463, 490, 491, 493, 95, 105, 570, 85, 86, 998, RF	.80
D4211	460, 490, 520, 461, 463, 491, 493, 95, 105, Osc.	.50
D4111	460, 490, 520, 570, 461, 463, 491, 493, 95, 105, 1st IF	1.50
D4044	500, 551, 59, 75, 195, 560, 566, Ant.	.80

MAJESTIC PAPER SECTION COILS

All models using paper section coils carried in stock.



MAJESTIC (New Company)		
D4313	65, 66, 650, 75, 76, 750, 85, 86, 850, Osc.	2.40
D4816	1050, Int. RF (Coil only)	2.40
MOTOROLA		
D5064	5T, 5T1, 5T2, 5Y, 5-1, 5-2, Osc.	1.40
D5065	5T, 5T1, 5T2, 5Y, 6A, 5-1, 5-2, 6-1, 1st IF	1.30
D5066	5T, 5T1, 5T2, 5Y, 6A, 5-1, 5-2, 6Y, 6T, 6-2, 9Y, 9R, 9A, 9-1, 9-2, 9-3, 2nd IF	1.60
D5069	10Y, 10-1, 2nd IF	1.30
PHILCO		
D4261	19 (Police-Code 128 Early) 2nd IF	1.60
D4273	19 (Police-Code 128 Early) Ant.	1.00
D4405	38 (Code 123) 38 A, 1st IF	.70
D4445	38 (Code 123) 38A, 2nd IF	.70
D4336	84, IF, Trans.	1.50
D4364	118, Osc.	1.20
R. C. A.		
D4054	80, 82, 86, RAE 69, 1st IF Coil	.90
D4055	80, 82, 86, RAE 68, 2nd IF Coil	.90
D4056	80, 82, 86, RAE 68, 3rd IF Coil	.90
D4842	95T5, Ant.	1.00
SENTINEL		
D4851	31B, 35B, 39B, 46A, 53A, Preselector	1.20
D4852	60B, Osc.	1.00
O4725	72A, 72AE, 80B, 100X, B.C., Osc.	1.00
STEWART-WARNER		
D4465	R119, B.C., 1st Det.	1.00
D4154	R123, 1231, 2, 3, 4, 5, 6, 7, 9, 2nd IF	1.00
D4052	R304, A, 3041, 2, 3, 4, 5, 6, 7, 8, 9, Osc.	1.00
ZENITH		
D4899	1004, 108-130, 145, 153, 155, 156, 157, 160, 5801-8S-129, 154, 5634-6S-128, 187, 147, 152, 157, 2nd IF	1.25
D4900	1004-108-130, 145, 153, 155, 156, 157, 160, 1203-12U-158, 159, 5801-8S129 154, 5635-6B107, 129, 164, 5711-7J232, 259, 1501-15U246, 269, 270, 271, 272, 273, 1204-12S-205, 232, 245, 265, 266, 267, 268, 5905-9S-203, 232, 242, 244, 266, R.F. Choke	.50
D4692	5707, 7D119, 126, 127, 138, 148, 151, 162, 178, 1st IF	1.25

CARRON SIGNAL TRACING AMPLIFIER KIT

Covering the ranges of 55 K.C. to 17 M.C. in five bands, this single channel amplifier will test all I.F., R.F., and onkyoscillator stages. A co-axial low loss cable having an input capacity of only 2 Mmfd. is employed working into a four step capacitance attenuator. • Seven tubes are used, including a 6U5 electron ray indicator and two tuned circuits for gain and selectivity are incorporated. • Additional gain is made possible by the use of an infinite impedance detector and a D.C. amplifier to operate the "eye" tube. • A novel band switching system is employed in which only two dial scales are provided for the bands. • A 3" dynamic speaker is provided to facilitate the use of the instrument. • Overall size, 9" x 9" x 7". • Circular 75H showing circuit, parts layout and parts list is available on request.



MODEL CCH

The net price of the basic Carron CCH kit is only\$18.15*

CARRON Coils

UNSHIELDED BANK WOUND LITZ



Employing a new type Progressive Bank Winding and High Impedance Primaries. These coils represent the best in performance. $\frac{7}{8}$ " OD x $2\frac{1}{4}$ " long.

S524 Ant. (Red Dot)	\$0.55
S521 R.F. (Red Dot) .....	.55
S335 Ant. (Green Dot) .....	.55
S336 R.F. (Green Dot) .....	.55

UNSHIELDED—ENAMEL WOUND



Wound to the same exacting standards as the Coils shown to the left. These Enamel Wound High Impedance Coils. $\frac{7}{8}$ " OD x $2\frac{1}{4}$ " long.

S526 Ant. (Red Dot)	\$0.50
S552 R.F. (Red Dot) .....	.50
S639 Ant. (Green Dot) .....	.50
S640 R.F. (Green Dot) .....	.50

MIDGET TYPE ANTENNA AND R.F. COILS

POPULAR REPLACEMENT TYPES, LITZ WOUND, HIGH IMPEDANCE PRIMARIES



Progressive Bank Wound, $\frac{3}{4}$ " x $1\frac{1}{2}$ " form. A small High Gain Type.

Price Each	\$0.75
S533 Ant. (Green Dot)	
S532 R.F. (Green Dot)	
Price Each	\$0.75



Two PI, High Gain Universal Wound. Size $\frac{3}{4}$ " x $1\frac{1}{4}$ ".

S674 Ant. (Green Dot)	
S675 R.F. (Green Dot)	
S696 Ant. (Red Dot)	
S697 R.F. (Red Dot)	
Price Each	\$0.75

IRON CORE AND DOWEL TYPE ANTENNA AND R.F. COILS



Progressive Bank Wound, Midget Size, $\frac{5}{8}$ " x 1".

S370 Ant. (Green Dot)	
S371 R.F. (Green Dot)	
Price Each	\$0.55

B. C. AND POLICE TYPE

S345 Ant.	\$0.60
S346 R.F. ....	.60



High Gain, Iron Core shielded in $1\frac{3}{4}$ " x $1\frac{3}{4}$ " x $2\frac{1}{2}$ " Shield Can. Selected Iron Cores and No. 20-44 Litz Wire to provide the very highest Gain.

S368 Green Dot Ant.	\$2.00
S369 Green Dot R.F.	2.00

PRESELECTOR COILS



Universal Litz Wound, High Impedance Primaries.

S517 Shielded (Green Dot).....	\$1.25
S609 Shielded (Red Dot)	1.25
S563 Unshielded (Green Dot)	1.00
S610 Unshielded (Red Dot)	1.00



Shielded and Unshielded Types—All Green Dot. Series Compact Shield $1\frac{3}{8}$ " x $1\frac{3}{4}$ ". Unshielded types with $\frac{7}{8}$ " x 1" Terminal Base.

S536 Shielded Iron Core Ant.....	\$1.50
S608 Iron Core Auto Radio Ant.....	1.25
S535 Shielded Iron Core R.F.....	1.50
S534 Dowel Type Ant. ....	.70
S575 Dowel Type R.F. ....	.70

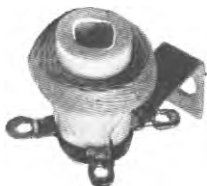
IMPORTANT—READ THIS!

Carron standard broadcast frequency antenna, R.F., preselector and oscillator coils are constructed to conform with the latest approved practices. Two general ranges are covered—1715-550 K.C. and 1500-540 K.C. In each case, some overlap is obtainable. The coils for the 1715-550 K.C. range (coded red dot) are usually tuned with a 410 mmfd. gang condenser, while the latter (coded green dot) are tuned with a 385 mmfd. Since the ranges covered are standard, the values of inductance encountered are standard and may be matched with existing coils having the same dimensions and description. In all cases, "exact" replacements should be used where listed, as they are carefully matched to the original.

The coils in the following list are so grouped that a selection may easily be made. Coils of the same group may be tracked together, and where used in a superheterodyne choice of an oscillator coil having the same color code dot will result in proper tracking over the desired range.

OSCILLATOR COILS

Furnished in solenoid and dowel types



	I. F. Freq.	Code	Range	List Price
S539 Solenoid	455/6 K.C.	Green	1500-540	\$0.60
S613 Solenoid	455/6 K.C.	Red	1715-550	.60
S529 Dowel	455/6 K.C.	Green	1500-540	.65
S614 Dowel	455/6 K.C.	Red	1715-550	.65
S615 Solenoid	262 K.C.	Green	1500-540	.60
S616 Dowel	262 K.C.	Green	1500-540	.65
S538 Solenoid	175 K.C.	Green	1500-540	.60
S617 Solenoid	175 K.C.	Red	1715-550	.60
S528 Dowel	175 K.C.	Green	1500-540	.65
S618 Dowel	175 K.C.	Red	1715-540	.65

UNTUNED R.F. TRANSFORMER

A Bi-linar Wound Untuned Transformer suitable for coupling R.F. Stages or Working into a Diode Detector. An excellent Gain vs. Frequency Curve in the Broadcast Band. Furnished in a $1\frac{3}{8}$ " x $1\frac{3}{4}$ " Shield Can.

S583	\$1.00
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CARRON Coils

I.F. TRANSFORMERS

The I.F. transformers listed on this page are built of the finest materials. They incorporate the latest methods of protecting the windings from temperature and humidity effects. Lead spacers and can liners are used to eliminate shift with vibration and internal leakage. They are suitable for general replacement or constructional use. A complete description of the choice of the proper I.F. is given in the Carron catalog.



STANDARD I.F. TRANSFORMERS				
Type	Cat. No.	Freq. K.C.	Position	List
Single Stage	S329	175	Input	1.25
	S330	175	Output	1.25
Two Stage	S597	175	Input	1.25
	S331	175	Int.	1.25
	S596	175	Output	1.25
	S595	175	C.T. Out.	1.25
Single Stage	S325	262	Input	1.25
	S326	262	Output	1.25
Two Stage	S582	262	Input	1.25
	S327	262	Int.	1.25
	S601	262	Output	1.25
	S581	262	C.T. Out.	1.25
Universal One or Two Stage	S599	370	Imp.-Int.	1.25
	S598	370	Output	1.25
	S600	370	C.T. Out.	1.25
Single Stage	S321	456	Input	1.25
	S322	456	Output	1.25
Two Stage	S604	456	Input	1.25
	S323	456	Int.	1.25
	S603	456	Output	1.25
Two Stage	S604	456	Input	1.25
	S324	456	Int.	1.25
S602	456	C.T. Out.	1.25	
Universal One or Two Stage	S510*	456	Imp.-Int.	1.25
	S509*	456	S.T. Out.	1.25
	S574*	456	Output	1.25
S341*	456	C.T. Out.	1.25	
Universal One or Two Stage	S665	1500	Input	1.25
	S666	1500	Int.	1.25
S667	1500	Output	1.25	
S678	1500	Output†	1.25	
Universal One or Two Stage	S679	3000	Input	1.25
	S680	3000	Int.	1.25
S681	3000	Output	1.25	
S682	3000	Output†	1.25	

IRON CORE I.F. TRANSFORMERS				
Type	Cat. No.	Freq. K.C.	Position	List
Single Stage	S340	175	Input	2.00
	S341	175	Output	2.00
Two Stage	S589	175	Input	2.00
	S342	175	Int.	2.00
	S588	175	Output	2.00
	S587	175	C.T. Out.	2.00
Single Stage	S337	262	Input	2.00
	S338	262	Output	2.00
Two Stage	S585	262	Input	2.00
	S339	262	Int.	2.00
	S594	262	Output	2.00
	S584	262	C.T. Out.	2.00
Universal One or Two Stage	S592	370	Imp.-Int.	2.00
	S591	370	Output	2.00
	S590	370	C.T. Out.	2.00
Single Stage	S332	456	Input	2.00
	S333	456	Output	2.00
Two Stage	S542	456	Input	2.00
	S334	456	Int.	2.00
	S564	456	Output	2.00
Two Stage	S542	456	Input	2.00
	S334	456	Int.	2.00
S593	456	C.T. Out.	2.00	
Universal One or Two Stage	S668	1500	Input	2.00
	S669	1500	Int.	2.00
S670	1500	Output	2.00	
S683	1500	Output†	2.00	
Universal One or Two Stage	S671	3000	Input	2.00
	S672	3000	Int.	2.00
S673	3000	Output	2.00	
S684	3000	Output†	2.00	

SPECIAL IRON CORE TRANSFORMER
 S5-115 K.C. Double Tuned 2.00
 S685 100 Univ. 2.00

*1 1/2"x1 1/2"x3" Shield Can †For Triple Detection Mounted in 1 1/2"x1 1/2"x3 1/2" Shield Can Unless Otherwise Noted.

NEW MIDGET I.F. TRANSFORMERS

Mica Tuned, Ceramic Base Trimmer, 1 1/4"x1 1/4"x2 1/2"

Midget Standard I.F.				Midget Iron Core I.F.			
Cat. No.	Freq. K. C.	Position	List	Cat. No.	Freq. K. C.	Position	List
S356	456	Input	1.00	S362	456	Input	1.50
S357	456	Interstage	1.00	S363	456	Interstage	1.50
S358	456	Output	1.00	S364	456	Output	1.50
S359	262	Input I.F.	1.00	S365	262	Input	1.50
S360	262	Interstage	1.00	S366	262	Interstage	1.50
S361	262	Output	1.00	S367	262	Output	1.50

SPECIAL I.F. TRANSFORMERS

"FLAT TOP" TRIPLE TUNED Pi WOUND I.F. 455.6 K.C.
 Mica Tuned, Mounted in 2"x2"x4" Shield

S687 Input \$2.75
 S688 Output \$2.75

High Gain Triple Pi 455/456 KC. 1 1/8"x1 1/8"x3 1/2" Shield

S513 Input \$1.50
 S686 Output \$1.50

BAND EXPANDING (VARIABLE COUPLING) I.F.'s

IRON CORE 455/6 K.C.

S647 2 Position Input/Int. \$2.75
 S651 3 Position Input/Int. 3.00

456KC Litz Wound, 1 1/2"x1 1/2"x2 1/2" Shield Can. Mica Tuned with Fixed Tank Capacity.
 S375 \$1.50

PERMEABILITY TUNED, SIDE TUNED TYPE

S653 3 Position Input/Int. \$4.50

BEAT FREQUENCY OSCILLATORS ELECTRON COUPLED CIRCUIT

S540 456KC Mica Tuned \$1.50
 S661 456KC Perm. Tuned 2.00

IRON CORE, PERMEABILITY TUNED TRANSFORMERS

Top and Bottom Tuned New Progressive Litz Winding. 1 1/2"x1 1/2"x3 1/2" Shield Can.

S632 456KC Input \$2.50
 S633 456KC Output 2.50
 S637 262KC Input 2.50
 S638 262KC Output 2.50

High Gain Side Tuned Type 455/6 KC. 1 1/8"x1 1/8"x3 1/2" Shield Can. An exceptionally stable I.F. possessing maximum gain.

S642 Input \$3.00
 S642 Output 3.00

WAVE TRAPS

Designed to permit the most effective rejection over a restricted range.



Freq. Range	Cat. No.	Freq. Range	Cat. No.
1600-1800	S627	500-600	S381
1400-1600	S398	400-500	S628
1200-1400	S395	225-285	S629
1000-1200	S396	165-185	S630
800-1100	S397	3500-10000	S399
600-800	S382		

LIST PRICE ALL TYPES.....\$0.75

RADIO FREQUENCY CHOKES

New Ceramic Forms, Low Capacity



Inductance in Mh.	Cat. No.	Inductance in Mh.	Cat. No.
2.5	S544	20.0	S562
3.5	S545	25.0	S537
5.5	S546	30 C.T.	S606
7.5	S543	30.0	S548
10.0	S547	60.0	S549
15.0	S559	80.0	S550

HIGH FREQUENCY TRANSMITTING AND RECEIVING CHOKES

S623 2 1/2 Mh 4 Pi Ceramic Form, 125 MA \$0.50
 S405 2 1/2 Mh 4 Pi Polystyrene Form, 125 MA60
 S406 5.0 Mh Tapered 4 Pi-Polystyrene Form 125MA75
 S566 2- Mh 6 Pi Ceramic Standoff Form 500 MA 1.50
 S567 1.2 Mh 6 Pi Ceramic Standoff Form 1000 MA 1.50
 S620 5.0 Mh 6 Pi Ceramic Standoff Form 400 MA 1.50

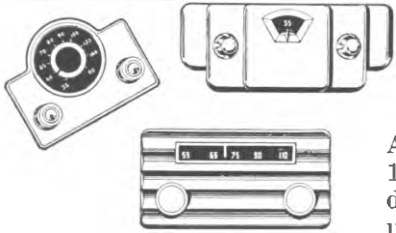
COIL REPAIR PARTS, REPLACEMENT PRIMARIES

SLIPOVERS—1.7 Mh.		SLIPOVERS—3.5 Mh.		DOWEL TYPES	
S762	3/8" I.D. Ant. Pri.	S712	13/16" I.D. Ant. Pri.	S724	3/8" OD, 1/2" Long
S703	1/2" I.D. Ant. Pri.	S701	15/16" I.D. Ant. Pri.	S725	1/2" OD, 1/2" Long
S702	5/8" I.D. Ant. Pri.	S711	1-1/16" I.D. Ant. Pri.	List Price, All Types, .25	
S709	23/32" I.D. Ant. Pri.	S708	1-3/16" I.D. Ant. Pri.		

THIS IS NOT A COMPLETE LIST. SEE THE CARRON CATALOG.

Stewart

CUSTOM BUILT AUTO RADIO PANEL PLATES



The panel plates illustrated are typical of all Stewart kits listed below. Each kit contains the custom panel plate, knobs and hardware with instruction for installation of the tuning unit on the instrument panel.

All cars prior to 1938 use the airplane type dial, and cars from 1938 to date use either the airplane, peep-hole or slide rule type dial, depending on the instrument panel. All of these installations use the Stewart Single unit tuning control.

Car	Year	Model	Kit No.	List Price	Car	Year	Model	Kit No.	List Price	Car	Year	Model	Kit No.	List Price	
Auburn	1934-36	All	5529C	\$2.00	Graham	1937	Crusader	5873	2.00	Plymouth	1938	Standard	6157	\$2.00	
Buick	1941	All	7369	\$2.65		1937	Cavalier, Super Charger	5879	2.00		1938	Deluxe	6167	2.00	
	1940	All	7169	2.55		1936	No Car				1937	Standard	5857	2.00	
	1939	All	6969	2.25		1935	All	5537RWL	2.00		1937	Deluxe	5867	2.00	
	1938	All	6169	2.00	Hudson	1941	All	7370	\$2.00		1936	Standard	5529CU	2.00	
	1937	40-60	5869	2.00		1940	All	7170	2.25		1936	Deluxe	5512	2.00	
	1937	80-90	5877	2.00		1939	90-92	6971	2.25		1935	Standard	5529CU	2.00	
	1936	All	5516	2.00		1939	93-95-97	6970	2.25		1935	Deluxe	5537GR	2.00	
Cadillac	1941	All		\$2.65		1938	6, 8	6170	2.00		1935	Deluxe (Striped Grain)			
	1940	All	7168	2.25		1938	112	6170A	2.00		1935	Deluxe (Brown Walnut)	5537BWL	2.00	
	1939	All	6968	2.25		1937	All (Left comp opening)	5870	2.00		1934	All	5537BL	2.00	
	1938	All	6168	2.25		1937	All (Center Opening)	5882	2.00	Pontiac	1941	All	7374	\$3.15	
	1937	All	5868	2.00		1936	All	5517	2.00		1940	All	7174	2.25	
	1936	All	5530	2.00		1935	All	5538RW	2.00		1939	All	6974	2.25	
	1935	All	5532	2.00		1934	All	5538BW	2.00		1939	Canadian	6974A	3.00	
Chevrolet	1941	Master Deluxe	7362	\$3.15	Hupmobile	1939	All	6982	\$2.25		1938	All	6174	2.00	
	1941	Special Deluxe	7361	\$3.15		1938	All	6182	2.25		1937	All	5874	2.00	
	1940	Master 85	7162	2.25		1937	No Car				1936	Standard	5515S	2.00	
	1940	Master Deluxe, Special Deluxe	7161	2.25		1934	All	5537BW	2.00		1936	Deluxe	5515D	2.00	
	1939	All	6962	2.00		1934	'35 & '36				1936	Deluxe (late)	5515DU	2.00	
	1939	Canadian	6962A	3.00						Reo	1936	Flying Cloud	5537CS	\$2.00	
	1938	All	6162	2.00	La Salle	1940	All	7168	\$2.25		1935	Flying Cloud	5537BL	2.00	
	1937	All	5862	2.00		1939	All	6968	2.25	Studebaker	1941	All	7350	\$2.25	
	1935	All	5511	2.00		1938	All	6168	2.25		1940	Commander, President	7150	2.65	
Chrysler	1941	All	7360	\$3.15		1937	All	5868	2.00		1939	Champion	6949	2.65	
	1940	All	7160	2.25		1936	All	5530	2.00		1939	Champion Deluxe	6948	2.65	
	1940	Canadian	7160A	2.25		1935	All	5532	2.00		1939	Champion			
	1939	All	6960	2.25	Lincoln	1941	All	7366	\$2.25		1939	Champion	6950	2.25	
	1938	Royal & Imperial	6160	2.25		1940	All	7166	\$2.25		1939	President	6951	2.25	
	1937	Airflow 8, Airflow Imperial	5865	2.00		1939	All	6966	2.25		1938	All	6150	2.00	
	1937	Royal	5860	2.00		1938	All	6166	2.00		1937	Dictator	5851	2.00	
	1937	Imperial	5861	2.00		1937	All	5866	2.00		1937	Dictator	5850	2.00	
	1936	Six	5519	2.00		1936	All	5510D	2.00		1937	Business Coupe			
	1936	Deluxe 8	5520	2.00	Mercury	1941	All	7365	\$3.15		1937	President	5852	2.00	
	1936	Airflow 8, Airflow Imperial	5521	2.00		1940	All	7165	2.25		1937	President State	5852A	2.00	
	1934	Six, Deluxe 8	5537BW	2.00		1939	All	6965	2.00		1936	Dictator	5522	2.00	
	-35										1936	President	5523	2.00	
	1934	Airflow 8, Airflow Imperial	5529CU	2.00	Nash	1941	All	7356	\$2.25		1934	President	5529CU	2.00	
De Soto	1941	All	7359	\$3.15		1940	All	7156	2.25		-35				
	1940	All	7159	2.25		1939	All	6956	2.25	Terraplane	1938	All	6171	\$2.00	
	1939	All	6959	2.25		1938	Ambassador	6156	2.25		1937	70 (Commercial Body)	5871	2.00	
	1938	All	6159	2.00		1938	Lafayette	6155	2.00		1937	71-72 (Left comp opening)	5870	2.00	
	1937	All	5859	2.00		1937	Ambassador	5856	2.00		1937	71-72 (Center opening)	5882	2.00	
	1936	Airstream, Airflow Custom	5526	2.00		1935	Ambassador	5529N	2.00		1936	All	5518	2.00	
	1936	Deluxe	5527	2.00		1935	Lafayette	5529L	2.00		1936	All	5538RW	2.00	
	1935	All	5537RWG	2.00		-36					1935	All	5538BW	2.00	
	1934	All	5537BW	2.00	Oldsmobile	1941	All	7378	\$2.25		1934	All	7381	\$2.25	
Dodge	1941	All	7358	\$3.15		1940	All	7178	2.25	Willys	1941	All	7180	2.25	
	1940	All	7158	2.25		1939	All	6978	2.25		1940	Standard	7181	2.25	
	1940	Canadian	7158A	2.25		1939	60 Canadian	6978A	3.00		1938	Deluxe	6181	2.00	
	1939	All	6958	2.25		1938	All	6178	2.25		1937	All	5881	2.00	
	1939	Stand. Canadian	6958A	2.25		1937	All	5878	2.00						
	1939	Deluxe Canadian	6961	2.65	Packard	1941	All	7353	\$2.25		Under panel		Black Chrome	5876	\$2.00
	1939	Custom Canadian	6958	2.25		1940	110, 120 (Chrome)	7151	2.25				Chrome	5875	2.00
	1938	All	6158	2.00		1940	110, 120	7153	2.25						
	1937	All	5858	2.00		1940	110, 120 (Walnut Grain)	7155	2.25						
	1936	All	5513	2.00		1940	160 (Chrome)	7149	2.25						
	1935	All	5537RW	2.00		1940	160 (Grain)	7154	2.25						
	1934	All	5537BL	2.00		1940	180	7152	2.25						
Ford	1941	All	7363	\$3.15		1939	Six, 120	6953	2.25						
	1940	Standard	7163	2.25		1939	Super 8 & 12	6954	2.25						
	1940	Deluxe	7164	2.25		1938	Six, Eight	6153	2.00						
	1939	Standard	6963	2.00		1938	Super 8 & 1a	6154	2.25						
	1939	Deluxe	6964	2.00		1937	120C	5854	2.00						
	1938	All	6163	2.00		1937	Six	5853	2.00						
	1937	Standard	5864	2.00		1937	Super 8 & 12	5872	2.00						
	1937	Deluxe	5863	2.00		1936	120 B	5524BR	2.00						
	1936	Standard	5510S	2.00		1936	Eight, Super 8 & 12	5525	2.00						
	1936	Standard (late)	5510RM	2.00		1935	120	5524BL	2.00						
	1936	Deluxe	5510D	2.00		1935	Eight, Super 8 & 12	5525	2.00						
	1936	Deluxe (late)	5510SW	2.00											
	1935	Standard	5536S	2.00											
	1935	Deluxe	5536D	2.00	Plymouth	1941	Standard Deluxe	7157	\$2.00						
	1934	Deluxe	5536DWF	2.00		1941	Special Deluxe	7367	\$3.15						
Graham	1941	Hollywood	7379	\$2.25		1940	Road King	7157	2.25						
	1940	All	7179	2.25		1940	Deluxe (Grain)	7167	2.25						
	1939	All	6979	2.25		1940	Deluxe (Chrome)	7171	2.25						
	1938	All	6179	2.00		1939	Road King	6957	2.00						
						1939	Deluxe	6967	2.00						

Stewart

AUTO RADIO REMOTE CONTROLS

TUNING UNITS



Standard universal tuning unit, for use with all Stewart custom built panel plates from 1934 to date.

No. 5500B Standard tuning unit with pilot light (25" lead).

List Price \$2.40
Furnished in gear ratios of 6:1, 8:1, 10:1, 12:1, 16:1, 20:1, and 21:1.

No. 5500S Standard tuning unit, with tuning stop and pilot light (25" lead) List Price \$2.40

Furnished in gear ratios of 12:1, 16:1, and 20:1.

Specify gear ratio.

Deluxe universal tuning unit, for use with all Stewart custom built panel plates from 1934 to date. This unit has a local distance switch incorporated in it which is operated by a secondary wing knob.

No. 5653 Deluxe tuning unit, with pilot light (4 1/2" lead).

List Price \$3.50
Furnished in gear ratios of 6:1, 8:1, 10:1, 12:1, 16:1, 20:1, and 21:1.

No. 5653S Deluxe tuning unit with tuning stop and pilot light (4 1/2" lead) List Price \$3.50

Furnished in gear ratios of 12:1, 16:1, and 20:1.

Specify gear ratio.

PILOT LIGHTS

No. 5426-6 Pilot light with 6 inch lead wire (not shielded).

List Price \$0.35

No. 5426-25 Pilot light with 25 inch lead wire (shielded).

List Price \$0.45

GEAR ASSEMBLIES

For changing the gear ratio of any Stewart tuning unit.

No. 5423 Gear Assembly (no slip gear) furnished in gear ratios of 6:1, 8:1, 10:1, 12:1, 16:1, 20:1, and 21:1. List Price \$0.35

No. 5423-A Gear Assembly (Slip Gear) furnished in gear ratios of 12:1, 16:1, 20:1, and 21:1.

List Price \$0.50

Specify ratio when ordering.

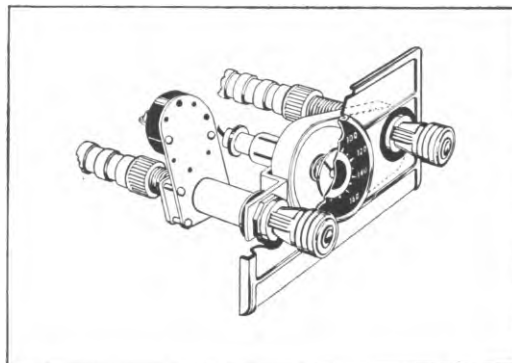
UNIVERSAL APPLICATION

One single control unit for practically all auto radio receivers furnished in any gear ratio, with other optional features such as on and off switch, local distance switch, volume control and variable tone control. One control unit allows either peep-hole, slide rule or airplane dial installation—resulting in complete market coverage for practically all auto radio receivers with a small inventory—less investment.

INDIVIDUAL CAR STYLING

Custom Built Panel Plates styled to harmonize with the instrument panel and its fittings—giving individual instrument panel installation for all popular cars from 1934 to 1940 inclusive. One single control unit for all Stewart custom built panel plates.

EASY INSTALLATION

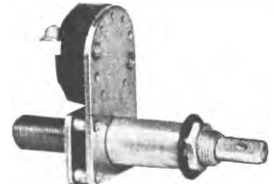


The Stewart auto radio remote control consists of two separate mechanisms, tuning unit and volume control unit. This construction permits on-the-panel installations with any Stewart panel kit, easily and quickly.

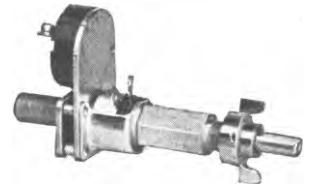
VOLUME CONTROLS



No. 5501 Standard Volume Control Shaft. List Price \$0.35



No. 5659 Volume Control with on and off switch. List Price \$1.05



No. 5661 Volume Control with on and off switch and variable tone control. Tone control being operated by a secondary wing knob.
List Price \$2.75

INSTALLATION & CONVERSION ASSEMBLIES



For Arvin, Delco and Philco manual control auto radios; adapt any of the above auto radios to all popular cars when the correct Stewart panel kit is added.

No. 6992—For all Arvin models from 1935 to and including 1941.
List Price \$5.85

No. 6990—For all Delco models from 1935 to and including 1941.
List Price \$7.50

No. 6991—Same as above, less tone control. List Price \$6.75

No. 5886—For Philco models CT2, C1452, 805, 806, 816, 826, 827, 827K, 828, 828K, 829.
List Price \$5.75

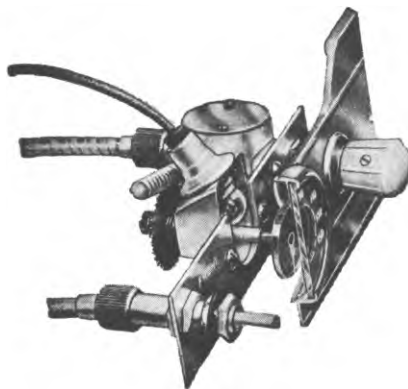
No. 6985—For Philco models 926, 927, 928K, 936, 937, 938K.
List Price \$3.75

STAR AUTO RADIO CONTROLS

THE ONLY CONTROL UNIT WITH ALL RATIOS SELF CONTAINED

SIMPLEST UNIT TO INSTALL

- FITS ALL AUTOMOBILE INSTRUMENT PANELS
- FITS ALL RADIOS—REGARDLESS OF RATIO, WITH ONE UNIT
- FITS ALL CONDENSERS, CLOCKWISE OR COUNTER-CLOCKWISE, WITH ONE DIAL
- NO HOLES TO DRILL OR FILE—100% UNIVERSAL FOR ALL PANEL OPENINGS
- NO TROUBLE TO INSTALL—PRE-ASSEMBLE—SIMPLY BOLT IN PLACE



100% UNIVERSAL IN EVERY WAY

- FITS ALL PANEL THICKNESSES—WITH ADJUSTABLE INDICATOR AND ADJUSTABLE CONTROL SHAFTS
- NO ADJUSTMENTS NECESSARY—AUTOMATIC CALIBRATION
- NO EXCESSIVE STOCK—SAME UNIT FITS EVERY JOB
- CUSTOM MATCHED PLATES TO FIT ALL 1935-1936-1937-1938-1939-1940 AND 1941 CARS.

No. 3801 CONTROL UNIT (Without Switch)

List Price \$3.50



Packard 1939



Oldsmobile 1939



Buick 1939



Hudson 8—1939



Ford 1939

COMPLETE LINE OF 1941, 40, 39, 38, 37, 36 ESCUTCHEON PLATE KITS

LIST PRICE \$2.25 each

Car	Year	Model	Kit No.	Car	Year	Model	Kit No.	Car	Year	Model	Kit No.
Buick	1936	All Models	361	Ford	1936	Standard Early	367A	Packard	1936	120B	3615
Buick	1937	40-60	371A	Ford	1936	Standard Late	367B	Packard	1937	120C	3715A
Buick	1937	80-90	371B	Ford	1936	De Luxe Early	367C	Packard	1937	115	3715B
Buick	1938	All Models	381	Ford	1936	De Luxe Late	367D	Packard	1938	6 and 8 Jr.	3815
Buick	1939	All Models	391	Ford	1937	Standard	377A	Packard	1939	All Models	3915
Buick	1940	All Models	401	Ford	1937	De Luxe	377B	Packard	1940	All Models	4015
Buick	1941	All Models	411	Ford	1938	All Models	387	Packard	1941	All Models	4115
Cad.-LaSalle	1936-7	All Models	372	Ford	1939	Standard	387A	Plymouth	1936	Standard	3616A
Cad.-LaSalle	1938	All Models	382	Ford	1940	De Luxe	387B	Plymouth	1936	De Luxe	3616B
Cad.-LaSalle	1939	All Models	392	Ford	1940	All Models	407	Plymouth	1937	Standard	3716A
Cad.-LaSalle	1940	All Models	402	Ford	1941	All Models	417	Plymouth	1937	De Luxe	3716B
Cad.-LaSalle	1941	All Models	412	Ford	1941	All Models	417	Plymouth	1938	All Models	3816
Chevrolet	1937	All Models	373	Hudson	1936	All Models	368	Plymouth	1939	Standard	3916A
Chevrolet	1938	All Models	383	Hudson	1937	All Models	378	Plymouth	1939	De Luxe	3916D
Chevrolet	1939	All Models	393	Hudson	1938	All Models	388	Plymouth	1940	All Models	4016
Chevrolet	1940	All Models	403	Hudson	1939	Mod. 112-118	388A	Plymouth	1941	All Models	4116
Chevrolet	1941	All Models	413	Hudson	1940	Model 122	398B	Plymouth	1941	All Models	4116
Chrysler	1936	Airstream 6	364A	Hudson	1941	All Models	408	Pontiac	1937	All Models	3717
Chrysler	1936	De Luxe 8	364B	Hudson	1937	All Models	418	Pontiac	1939	All Models	3817
Chrysler	1936	Airflow 8, Imperial	364C	LIn.-Zeph.	1937	All Models	3712	Pontiac	1940	All Models	4017
Chrysler	1937	Royal	374A	LIn.-Zeph.	1938	All Models	3812	Pontiac	1941	All Models	4117
Chrysler	1937	Imperial	374B	LIn.-Zeph.	1939	All Models	3912	Studebaker	1936	Dictator	3618A
Chrysler	1937	Airflow	374C	LIn.-Zeph.	1940	All Models	4012	Studebaker	1936	President	3618B
Chrysler	1938	All Models	384	LIn.-Zeph.	1941	All Models	4112	Studebaker	1937	Dictator Early	3718A
Chrysler	1939	All Models	394	Mercury	1939	All Models	399	Studebaker	1937	Dictator Late	3718B
Chrysler	1940	All Models	404	Mercury	1940	All Models	409	Studebaker	1937	President Early	3718C
Chrysler	1941	All Models	414	Mercury	1941	All Models	419	Studebaker	1937	President Late	3718D
De Soto	1936	Airs. Cust. Airt.	365A	Nash-Lafa.	1937	400 Series	3713	Studebaker	1938	All Models	3818
De Soto	1936	De Luxe	365B	Nash-Lafa.	1938	All Models	3813	Studebaker	1939	Commander	3918A
De Soto	1937	All Models	375	Nash-Lafa.	1939	All Models	3913	Studebaker	1939	President	3918B
De Soto	1938	All Models	385	Nash-Lafa.	1940	All Models	3913	Studebaker	1940	All Models	4018
De Soto	1939	All Models	395	Nash-Lafa.	1941	All Models	3113	Studebaker	1941	All Models	4118
De Soto	1940	All Models	405	Oldsmobile	1936	All Models	3614	Terraplane	1936	All Models	3619
De Soto	1941	All Models	415	Oldsmobile	1937	All Models	3714	Terraplane	1937	All Models	3719
Dodge	1936	All Models	366	Oldsmobile	1938	All Models	3814*	Terraplane	1938	All Models	3819
Dodge	1937	All Models	376	Oldsmobile	1939	All Models	3914	Willys-Ov.	1936	All Models	3820
Dodge	1938	All Models	386	Oldsmobile	1940	All Models	4014	Willys-Ov.	1940	All Models	3920
Dodge	1939	All Models	396	Oldsmobile	1941	All Models	4114	Willys-Ov.	1941	All Models	4020
Dodge	1940	All Models	406								
Dodge	1941	All Models	416								

* 1938 Oldsmobile. Complete unit with ON-OFF Switch with 12 to 1, 16 to 1, and 20 to 1 ratios only. Ready for installation..... List Price \$6.75

Under-dash or Steering Post Mount for all cars. No. 1000

KNOB S

Same as supplied in STAR Escutcheon Kits. For 3/16" shafts.

No.	List Price	No.	List Price
1—Black	\$.20	4—Pearl Grey Tenite	\$.20
2—Brown	.20	5—Chromium	.20
3—Wheat Tenite	.20	6—Coffee Tenite	.20
No. 600—Package of 50 knobs asst.	List Pr. \$9.00	7—Red Brown	.20

REMOTE CONTROL CABLE



No. PH37—For Philco 1937 Radio. Set of two flexible shafts.
List Price—per set \$1.95

No. DE-38—For Delco all models. Set of two flexible shafts. List Price—per set.....\$1.95

TONE CONTROLS

No. T-1

Three stage tone control (without On-Off switch).
List Price\$2.00

No. T-2

Variable tone control 100,000-ohm (without On-Off switch).
List Price\$2.00



SWITCHES

No. S-1

On-Off Power Switch, wired as shown.

List Price \$1.00



No. S-2—Two stage sensitivity switch (for local distance).
List Price\$0.50

No. ST-1

Three stage tone control combined with On-Off switch, wired as shown.
List Price\$3.00

No. ST-2

Variable tone control (100,000-ohm) combined with On-Off switch, wired as shown.
List Price\$3.00



STAR AUTO RADIO CONTROLS

NEW! STAR UNIVERSAL (7 in 1) SOCKET WRENCH

A unique, ingenious tool especially designed by STAR for auto radio and car heater installations. It is also suitable for general radio work. Made of hardened alloy steel, cadmium plated.

Seven sizes of sockets are all self-contained in the body of the wrench: $\frac{7}{16}$ " , $\frac{1}{2}$ " , $\frac{9}{16}$ " , $\frac{5}{8}$ " , $\frac{11}{16}$ " and $\frac{3}{4}$ ". Any of these sockets may be slipped out and into active position by simply pressing the spring clip. These sizes cover all standard bolts used in auto radios and car heaters.

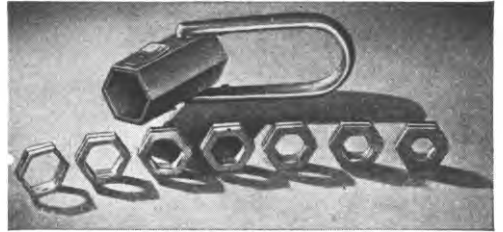
The head of the STAR UNIVERSAL SOCKET WRENCH takes any of the seven standard socket wrenches provided; a turn of the head collar locks the wrench in place.

A cleverly designed swivel handle provides ample leverage which speeds the action even in the most cramped spaces. **No Pliers and No Scraped Knuckles.**

Wrenches which are not in use are stored in the hollow handle of the tool where they lock in place and cannot be lost. Exceptionally long bolts fit right through the tool, thus permitting nut run-ups regardless of the length of the bolt.

The STAR UNIVERSAL SOCKET WRENCH is an unusually compact tool, easily carried in the pocket and instantly ready for use when needed. **No More Searching for Lost Wrenches!** Shipping Weight—1 pound.

No. SW 200—UNIVERSAL (7 in 1) SOCKET WRENCH Net Price **\$3.25***



AUTO CABLE SERVICE MACHINE AND ACCESSORIES



No. CM-100

Every Auto Radio serviceman is in need of a low priced efficient machine to do cable work on his own premises. This low priced machine is of hardened tool steel and will perform the following tasks:

Will remove old fittings from shafting and housing without destroying them so that these may be used again on new shafting and housing.

It will swedge both (hex shape) .130 and .150 shafting to prevent unraveling when cut to length.

Will clamp fittings on both shafting and housing.

It can be mounted in any ordinary vise.

Special arbor is supplied to protect housing while fittings are being clamped on.

No. CM-100—Complete with Arbor. Net Price \$7.50

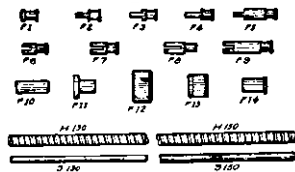


No. CMB

Special base for permanent mounting of Cable Machine to service bench. Rugged construction of Semi-Steel complete with bolts and all necessary hardware.

No. CMB—Net Price \$3.00

FITTINGS, SHAFTING, ETC. FOR AUTO RADIOS



All fittings and ferrules illustrated here are available with either .130 or .150 drilled holes to fit on .130 O.D. or .150 O.D. shafting and housing.

When ordering please specify size of shafting or housing these fittings are desired for. For example, in ordering fitting number F8 for .130 shafting, this should be designated as No. F3-130. If for .150 shafting, it should be designated as No. F3-150, etc.

All fittings, as illustrated, in standard packages of 10 8c each List

ASSORTMENT OF 130 FITTINGS, 5 OF EACH TYPE AND SIZE PACKED IN A HANDY METAL BOX

No. F-100—List Price \$10.00

SHAFTING AND HOUSING

(Of best quality made, same as originally used in most of the leading radio sets)

List Price

No. H-130—Galvanized housing .235 O.D.—50 ft. coils..... 12c per ft.

No. S-130—"Live" shafting .130 O.D.—50 ft. coils..... 12c. per ft.

No. H-150—Grey Parkerized housing .255 O.D.—50 ft. coils..... 18c. per ft.

No. S-150—"Live" shafting .150 O.D.—50 ft. coils..... 18c. per ft.

NON-RAVELING SHAFTING

(Special heat-treated shafting.

No swagging necessary.

Will not unravel when cut to length)

List Price

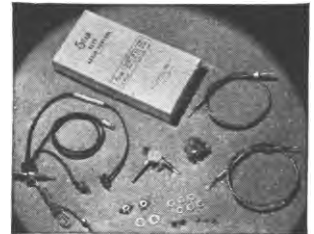
No. SD-130—"Dead" shafting .130 O.D.—50 ft. coils..... 14c. per ft.

No. SD-150—"Dead" shafting .150 O.D.—50 ft. coils..... 20c. per ft.

SPECIAL AUTO RADIO CONTROL CONVERSION KIT

For 1939-8-7-6 and 1935

Delco Radios



Consists of a 12 to 1 ratio tuning control unit, a combination Volume control shaft with On-Off switch and TONE CONTROL, completely wired with all necessary plugs for easy hook-up into any of the above-mentioned DELCO radio models, a set of ready-made flexible shafts and all necessary hardware.

This kit, together with any STAR escutcheon plate kit, is all that is needed to convert any 1939, 1938, 1937, 1936 or 1935 Delco model.

No. DE-39—Complete with TONE CONTROL List Price \$7.05

For 1938-1939 Philco Radios

No. PH-39—With Volume Control and Cable, Completely Wired.

List Price \$7.15

SPECIAL 1939 CHEVROLET PLATE



This is the only additional equipment necessary to install any 1936, 1937 or 1938 Chevrolet, Delco or United Motor Service custom-built radio into a 1939 Chevrolet car. It utilizes the original control unit and remote control cables. The plate is a heavy die casting, an exact duplicate of the original dummy plate on the dashboard of the 1939 Chevrolet. It makes an excellent custom matched installation.

No. 393X—List Price \$3.50

Philmore

Crystal Radio Receivers



SELECTIVE

Designed to give most efficient results and possessing unusual selectivity. Built with a tapped coil matched with a .00035 Mfd. variable condenser. The reception on this set is loud and clear without distortion or other noises. On the panel is a dial for tuning and logging stations, two double posts to take two pairs of headphones, and a dust-proof glass-enclosed crystal detector which includes the Philmore Supersensitive Crystal.

Code: "Yaguc"

List Price \$5.00 ea.

BLACK BIRD

An efficient receiving set which will receive broadcasting loud and clear and will bring happiness to all its listeners. Housed in crystalline finish metal cabinet, with attractive front panel. This set has eye appeal and can back up its good appearance with equally good results.

Code: "Yagye"

List Price \$3.00 ea.



DE LUXE

This set is housed in bakelite cabinets of pastel shades of red and blue and is equipped with a fixed detector. To operate this set requires only turning of the dial to locate the desired station. The detector is set on the most sensitive spot and permanently sealed. This makes a very attractive and efficient set easily operated by young and old. Two pairs of headphones can be attached so that two persons may listen in at one time.

Code: "Yoec"

List Price \$3.50 ea.

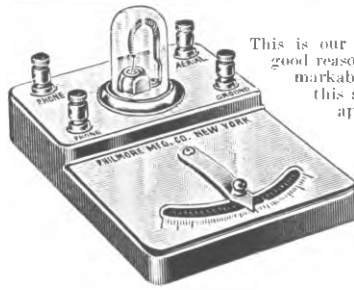


POCKET RADIO

"A Practical Receiving Set"—This set is one of the smallest radio sets ever built and is so portable that it can be carried in a vest pocket. Equipped with a fixed detector permanently sealed on the most sensitive spot. This is an efficient little set which will meet with popular favor amongst travelers and other users of crystal sets.

Code: "Yodle"

List Price (without Headphones) \$1.00 ea.



SUPERTONE

This is our biggest seller and there is good reason for its popularity. The remarkable results obtained from this set together with its general appearance and its scientific construction has placed this model in the unique position of being the largest selling crystal set in the world. Reception is loud and clear no distortion of any kind. The Philmore-Glass Enclosed dust proof fixed detector ad-

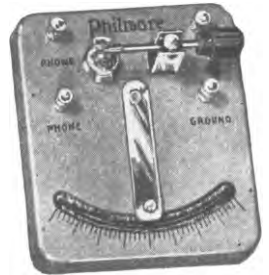
justable) is used, including the Philmore Supersensitive Crystal. Manufactured in bakelite in four beautiful colors: red, rose, green and orange.

Code: "Yagwa." List Price \$1.50 ea.

LITTLE WONDER Crystal Set

Compact in size but big in results. This set will receive broadcasting within 25 miles of a station. The open type detector permits adjustments to be made to the finest degree. This set includes the Philmore Supersensitive Crystal, which assures quick results when "looking" for a station, because the entire surface of the crystal is sensitive. Manufactured in bakelite in four beautiful colors: Green, Red, Orange and Rose. Code: "Yahoc."

List Price \$1.00 ea.



KOMPAKT RADIO

"The Economical Set"

Here is the radio set everyone has been waiting for. A real compact little set that has everything in it, complete with earphone and headband and equipped with both aerial and ground clips so as to be easily attached to a ground and for an aerial attached to house or telephone line or else an outdoor aerial of wire stretched between trees or buildings. Equipped with a fixed detector, permanently sealed and operated by a knob on a graduated dial. This little set will accomplish a great deal and will bring a lot of happiness to the owner. Code: "Yoels."

List Price (complete with Headphone) \$3.25 ea.



Glass Enclosed Crystal Detector



Ideal for Crystal Reflex circuits. Dust proof. Fixed at factory but delicately adjustable at all times. Includes Supersensitive Crystal. Code: "Yahib."

List Price 40c ea.

Open Type Crystal Detector

Universal Joint on swivel arm provides quick, accurate adjustment on any point of crystal. Handsome polished metal finish. Complete with crystal. Code: "Yahco."

List Price 25c ea.



HEADPHONES



Accurately matched set of headphones, each unit consisting of high flux magnets surrounded by field windings of 2000 ohms resistance. Ruggedly constructed of light weight metal, highly polished bakelite ear caps.

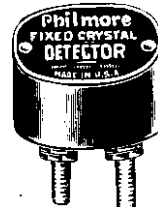
Code: "Yahya."

List Price \$2.75 ea.

SINGLE PHONE—1000 ohm, with cord and head band. Code: "Yodup."

List Price \$1.75 ea.

FIXED CRYSTAL DETECTOR



Will give renewed action to reflex or crystal sets. The sensitivity of the mineral is determined by laboratory methods and is fixed permanently.

Made to withstand high voltage. Small and enclosed in a bakelite case. Code: "Yahez."

List Price 80c ea.

Philmore

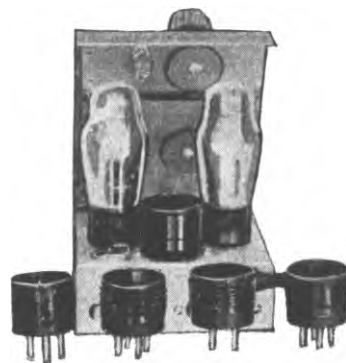
all Wave Radio Sets

AC - DC and BATTERY OPERATED — 1 and 2 TUBE SETS and KITS



Front View

THESE are all wave sets 15 to 600 meters which includes Police Calls, amateurs, aircraft, code, transoceanic short-wave telephone conversations as well as regular broadcasting. Has amazing volume and clearness. Very portable for use in camp or farm. The one-tube Battery model uses one A Battery 1½ volts, and one B Battery 45 volts, and one type 30 tube. The two tube Battery model uses one A Battery 1½ volts, two B Batteries 45 volts each, and two Type 30 tubes, which lasts for months. The kits are easy to wire. Every part of the entire receiver is mounted on an attractive panel and chassis. Large, clear picture diagram makes errors almost impossible. These sets are powerful enough to operate several headset sets at one time. The AC-DC Kit and Set operates with two Type 76 tubes and can be plugged into any 110-volt AC or DC main. Prices quoted are for the set wired or in kit form and includes the broadcast coil less batteries, tubes and headsets. Four short-wave coils, tubes and headset for AC-DC Sets, and batteries as well as short-wave coils, tubes and headset for Battery sets are extra equipment.



Rear View

Code	Description	List Price
YOGEN	1 Tube Battery Kit.....	\$2.25
YOGIP	1 Tube Battery Set—Wired.....	3.15
YOGMA	2 Tube Battery Kit.....	2.75
YQGN	2 Tube Battery Set—Wired.....	3.75
YOGSY	2 Tube AC-DC Kit.....	4.00
YOGUR	2 Tube AC-DC Set—Wired.....	5.00

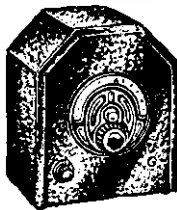
BATTERY and AC-DC COILS

The coil supplied covers the broadcast band from 200 to 530 meters, which is the most useful portion of the band. Code: "Mrx." Additional coils can be supplied as listed below.
 13 to 30 meters which tunes transatlantic stations and some amateur phone and code stations. Code: "Arx."
 25 to 60 meters which tunes some foreign stations and amateurs phone and code. Code: "Brx."
 50 to 120 meters which tunes some amateurs and code stations. Code: "Crx."
 100 to 240 meters which tunes some amateur stations, police calls and a portion of the broadcast band. Code: "Hrx."
 For one and two tube Battery Set Coils, use code letters as shown above with exception of letter "X." Meter wavelengths are the same.
List Price—All Types \$35 ea.

BATTERY RADIO SETS

Using new type DC X230 and X231 Tubes. Operation by these tubes is very economical, batteries lasting twice as long as usual and at the same time giving more than double the power. The following batteries are required:

- 1 Tube Set—
1 dry cell and one 22½ volt battery
- 2 Tube Set—
2 dry cells and one 45 volt battery
- 3 Tube Set—
2 dry cells, two 45 volt batteries and one 22½ volt C battery



Code	Type Sets	List Price
YAANF	1 Tube Receiving Sets.....	\$7.50
YAARJ	2 Tube Receiving Sets.....	9.00
YAASK	3 Tube Receiving Sets.....	13.00

All Prices Less Equipment

PORTABLE BATTERY SET

Two Tube Model

A specially developed circuit with a High "Q" coil system gives remarkable sensitivity and selectivity. Used with a short aerial and ground, excellent volume and distance are assured. A single tuning control and a volume control make for simplicity of tuning. B Battery consumption less than one milliamper, which ensures long battery life. Batteries required: 2 small dry cells and 3 small 4½ volt C batteries. Uses 1 Type 30 Detector Amplifier Tube and 1 Type 49 Double Grid Amplifier Tube.

Code: "Yodak"—List Price \$11.00 ea.
 Also available in Kit form, not wired:
 Code: "Yoegn"—List Price \$9.00 ea.
 Price does not include Headphones, Tubes or Batteries



HAND MICROPHONE

This microphone for home broadcasting will operate efficiently from any radio set. Finished in chromium and black lacquer, with a jet black highly polished handle. This makes a beautiful instrument which will bring joy and happiness to the operator as well as to listeners. It will help turn any dull house party into hilarious, enjoyable entertainment. Equipped with an on and off switch for cutting off radio programs and bringing in the home broadcaster's voice very clearly. This microphone is sensitive, has excellent volume, and is shock-proof. It is easily attached to any set without rewiring and can remain attached without interfering with regular broadcasting.



Code: "Yofla"—List Price \$1.50 ea.

NOISE and AERIAL ELIMINATOR

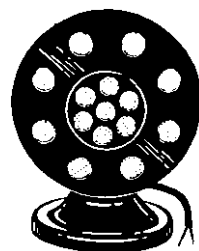


Greatly improves reception and tone quality of any receiver. Reduces line and static noises to an absolute minimum. Compact in size and very simple to install. Operates on either AC or DC current. Complete with bakelite knobs or fahnestock clips. Available in two models.

Code	List Price
YAAU With Bakelite Knobs.....	\$.65 ea.
YADEL With Fahnestock Clips.....	.40 ea.

JR. TABLE MICROPHONE

A real microphone for home and broadcasting. Not a toy. Very easily attached to your radio. Will not interfere with its operation. Has push button to cut microphone in and out of the circuit. Attractively finished.



Code: "Yakab"—List Price..... \$1.00 ea.

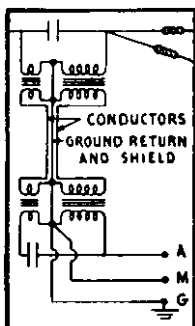
Make a
Good Connection

Belden

THE RADIO WIRING LINE



Belden Clear Channel* Antenna System



**There is no Substitute
for an Outside Antenna**

Belden iron core transformer couplers and Belden low loss transmission lines are incorporated in these unusually effective antenna systems. This Belden engineered design produces clear channel reception with *maximum efficiency* in all frequencies from 400 to 22,000 kilocycles with *no dead spots*.

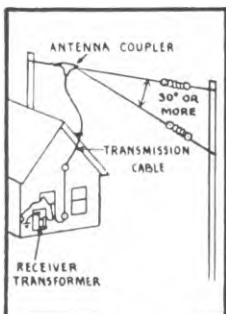
Engineered to operate efficiently with lengths of transmission cable 8209 up to 200 feet.

Belden Clear Channel Receiver Coupler

8101—Belden Clear Channel Double Iron Core Receiver Coupler as furnished with 8300 Antenna System. As many as four receivers will operate off one of these systems without noticeable decrease in signal strength. One of the couplers should be used at each set. Connect with Belden 8209 shielded transmission line in parallel at incoming posts of original coupler.

8101.....List price **\$1.90**

* Licensed under one or more of the following AAK, Inc., Pats.: Re 19854, 1920162, 1938092, and 2002844 and Belden Pats. Pending. The couplers in these units are not licensed for use where a single antenna supplies more than one individual home.



8300 Twisted Pair Shielded Transmission Line Type

—“L” antenna plus additional half doublet antenna for maximum short wave response. Shielding on transmission line also provides ground for “L” antenna and eliminates need for lightning arrester. Completely assembled — in display carton.

Contents:

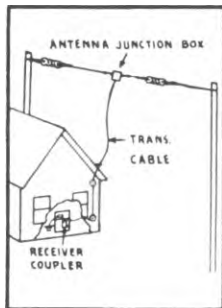
- | | |
|--|--|
| 1—60' Coil 7 x 22 Beldenamel Aerial Wire 8005 | 1—Double Iron Core Receiver Transformer 8101 |
| 1—25' Coil 7 x 22 Beldenamel Aerial Wire 8005 | 1—25' Coil 18 Stranded Ground Wire |
| 1—50' Coil Shielded Twisted Pair Transmission Cable 8209 | 2—Porcelain Nail-on Knobs 8102 |
| 1—Double Iron Core Antenna Coupler | 1—7" Stand-off Insulator 8104 |
| | 2—Porcelain Insulators |
| | 1—Ground Clamp 8897 |
| | 1—Instruction Sheet |
- 8300**.....List price each **\$8.35**

8302 Standard Doublet Type

—with iron core receiver coupler. Completely assembled in attractive display carton.

Contents:

- | | |
|---|--|
| 2—30' Coils 7 x 24 Bare Copper Aerial Wire 8002 | |
| 1—45' Coil Twisted Pair Transmission Wire 8205 | |
| 1—Antenna Junction Box | |
| 2—Porcelain Insulators 8103 | |
| 1—Receiver Impedance Matching Coupler | |
| 1—25' Coil 18 Stranded Ground Wire | |
| 1—7" Stand-off Insulator 8104 | |
| 2—Porcelain Nail-on Knobs 8102 | |
| 1—Instruction Sheet | |
- 8302**.....List price each **\$4.00**



Belden Underwriters' Approved Power Line Filters

8100—Deluxe Power Line Filter—effectively prevents power line interference. Has two dual condenser sections and two dual high “Q” choke coils. Eliminates man-made static on both broadcast and short wave bands. Efficient with all types of receivers. Ground is provided by three-wire power supply cord eliminating possibility of shock from case. Rating: 115 volts, 3 amperes.

8100.....List price each **\$9.50**

★**8105**—Standard Power Line Filter—has dual special high capacity low inductance condenser section. Otherwise similar to 8100. Effectively eliminates “back door” interference in practically all installations. Rating: 115 volts, 3 amperes.

★**8105**.....List price each **\$5.00**



★ New number
All prices subject to change without notice

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Belden ★ AERIAL KITS—AERIAL WIRE—ACCESSORIES

Belden Broadcast Aerial Kits

Wire and accessories for complete installation

- ★8303—Contents: List price each **\$0.70**
 1—50' 7 x 26 Bare Copper Aerial 8003
 1—Type "C" Ground Clamp 8897
 1—25' 18 Stranded Lead-in
 2—Porcelain Nail-on Knobs 8102
 2—Porcelain Insulators 8103
- 8304—Contents: List price each **\$1.75**
 1—75' 7 x 22 Beldenamel 8005
 1—35' 16 Stranded Lead-in
 1—Arrester 8896
 1—Type "C" Ground Clamp 8897
 1—12" Lead-in Strip 8890
 2—3" Glass Insulators 8814
 2—Porcelain Nail-on Knobs 8102
 2—Galvanized Screw-eyes
 1—Instruction Sheet
- 8305—Contents: List price each **\$1.60**
 1—75' Coil 7 x 22 Bare Copper Aerial 8000; otherwise same as 8304
- 8307—Contents: List price each **\$1.15**
 1—75' 7 x 24 Bare Copper Aerial 8002
 1—25' 18 Stranded Lead-in
 1—Arrester 8896
 1—Type "C" Ground Clamp 8897
 2—Porcelain Nail-on Knobs 8102
 2—Porcelain Insulators 8103
 1—Instruction Sheet
- 8309—Contents: List price each **\$0.85**
 1—50' Coil 7 x 26 Bare Copper Aerial 8003; otherwise same as 8307

Belden Indoor Aerial Wire Extra Flexible

Number	Length in Feet	List Price Each	Description
★8015	18	\$0.13	23 (20 x 36) double wrap of brown cotton on card
8015	1000	.004'	on spool
Non-Kinking—for A-C—D-C Sets			
8014	25	.23	23 (20 x 36) a wrap and a braid of brown cotton, on card
8014	1000	.01'	on spool



Belden Arresters—Ground Clamps



- 8950—Doublet air gap type porcelain arrester. List price each... **\$0.35**
- 8896—Belden standard size bakelite resistor type arrester dissipates destructive charges induced in the aerial system. Listed as standard by Underwriters'. Furnished with \$100.00 guarantee. List price each... **\$0.23**
- 8891—Belden large size arrester; otherwise same as 8896. List price each... **\$0.40**
- 8892—Biter type ground clamp—8¼" long. List price each... **\$0.115**
- 8897—"C" type ground clamp. Fits pipe up to 1¼". List price each **\$0.10**
- 8104—6" Stand-off insulator. List price each... **\$0.065**

Belden Aerial Wire Full Gauge and Weight

Unit Package indicated as follows: c=coil d=carton s=spool

Stranded Bare Copper

Number	Length in Feet	Size and Unit	List Price Each
8000	50	7 x 22 c	\$0.37
8000	75	7 x 22 c	.54
8000	100	7 x 22 c	.71
8000	1000	7 x 22 s	7.10
8001	50	7 x 23 c	.31
8001	75	7 x 23 c	.44
8001	100	7 x 23 c	.58
8001	1000	7 x 23 s	5.80
8002	50	7 x 24 c	.26
8002	75	7 x 24 c	.37
8002	100	7 x 24 c	.48
8002	1000	7 x 24 s	4.80
8003	50	7 x 26 c	.19
8003	75	7 x 26 c	.26
8003	1000	7 x 26 s	3.45
8004	500	7 x 20 s	5.50

Stranded Tinned Copper

8010	100	7 x 22 c	.84
8010	1000	7 x 22 s	8.40

Stranded Beldenamel

8005	75	7 x 22 d	.74
8005	100	7 x 22 d	.98
8005	150	7 x 22 d	1.45
8005	1000	7 x 22 s	9.55
8006	100	7 x 20 d	1.65
8006	1000	7 x 20 s	16.00

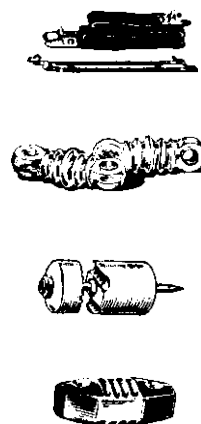
Solid Beldenamel

8007	500	10 s	8.75
8008	100	12 d	1.18
8008	500	12 s	5.70
8009	100	14 d	.80
8009	500	14 s	3.75

Solid Tinned Copper (Bus Bar Wire)

8011	500	12 s	5.80
8012	500	14 s	3.75
8013	500	16 s	2.75
8017	500	18 s	1.65
8018	500	20 s	1.15

Belden Lead-in Strips—Insulators



- 8890—12" Single lead-in strip—rubber insulation—clips both ends. List price each... **\$0.10**
- 8811—15" Single lead-in strip—rubber insulation—clips both ends. List price each... **\$0.125**
- 8812—12" Single lead-in strip. Lacquered braid—clips both ends. List price each... **\$0.075**
- 8813—12" Double lead-in strip. Lacquered braid—clips both ends. List price each... **\$0.165**
- 8814—Glass insulators 3" over-all length. List price pair... **\$0.175**
- 8102—Porcelain Nail-on Knobs. List price each... **\$0.04**
- 8103—Porcelain insulators 2¾" over-all length. List price each **\$0.045**

★New Number

All prices subject to change without notice

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Belden ★ TRANSMISSION LINE CABLES

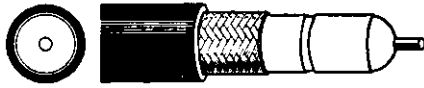
These Transmission Cables will meet the requirements for all the frequencies in the audio to and including the television or frequency modulation range.

72 Ohm Coaxial Cables

Designed for use as antenna receiving or transmitting cables; also for photoelectric or other circuits where characteristics fit the application.



15 Solid tinned, low loss rubber compound, tinned copper shield, tough vulcanized rubber sheath. O.D. = .435"



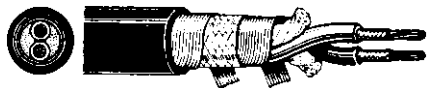
12 Solid tinned, low loss insulating bead, tinned copper shield, vulcanized rubber sheath. O.D. = .485"

Number	Length in Feet on Spool	List Price Each	Frequency (Kilo-cycles)	Surge Impedance (Ohms)	Power Factor (Per Cent)	Capacity (mml. Per Ft.)	D. B. Loss Per 100 Ft.	Q Value	Min. Punct. Volt.	Max. Load Capacity (Watts)
8216	50c†	\$0.13'	100	67.8*	.69	28.0	.031	145.	40000	1000
			1500	69.3*	.68	26.8	.225	148.		
			10000	70.0*	.73	26.3	1.030	136.		
			40000	70.2*	.50	25.9	2.240	203.		
8217	50c†	.50'	100	73.6*	.068	17.6	.057	1475.	3000	2000
			1500	73.9*	.060	17.7	.134	1670.		
			10000	75.8*	.060	16.6	.377	1665.		
			40000	77.0*	.060	15.9	.620	1607.		
8217	100c†	.50'	100000	71.1*	.50	25.5	3.780	203.		
			100000	77.8*	.060	15.0	1.06	1607.		

100 Ohm Twisted Pair

For Television or Frequency Modulation (FM)

18 Stranded tinned, celanese braid, rubber covered, color coded, twisted pair with fillers, celanese wrap, rubber sheath. O.D. = .270"



18 Stranded tinned, celanese braid, rubber covered, color coded, twisted pair with fillers, celanese wrap, tinned copper shield, cotton wrap, rubber sheath. O.D. = .350"

★8218	500†	.08'	100	105.*	1.51	18.5	.048	66.3	10000	250
			1500	107.*	1.73	18.0	.270	57.8		
			10000	113.*	1.80	16.0	1.399	55.5		
			40000	106.*	2.27	18.2	5.800	45.0		
			100000	106.*	2.27	18.5	13.190	45.0		
★8219	500†	.14'	100	90.*	2.18	25.5	.060	45.9	10000	250
			1500	90.*	1.75	25.5	.326	57.1		
			10000	93.*	1.77	23.5	1.367	56.5		
			40000	92.*	2.01	24.5	6.180	50.3		
			100000	90.*	2.05	25.5	14.530	49.3		



EO1 Type. 12 Solid, cellophane wrap .035" rubber, twisted pair, over-all cotton braid, weather-proofed.

Transmitting Line Cable

8210	100c	.055'	100	72.0*	3.08	31.3	.045	32.5	20000	2000
			1500	73.7*	2.16	29.7	.463	46.3		
8210	500†	.055'	10000	73.7*	2.53	29.7	2.230	39.5		
			40000	73.0*	1.12	29.7	6.300	89.0		
			100000	73.0*	1.12	29.7	10.450	89.0		



For the majority of all-wave receivers and of any half-wave di-pole antenna. 18 Stranded tinned, cotton wrap, low capacity rubber, color coded, twisted pair, over-all white cotton braid, weather-proofed.

72 Ohm Twisted Pair For Broadcast and Short Wave

8204	75c	1.93	100	66.4*	1.29	34.5	.062		10000	250
			1500	67.7*	1.42	33.5	.357			
8204	500†	.025'	10000	68.4*	1.93	32.5	2.11			
			40000	68.9*	2.02	31.9	6.25			
			100000	69.6*	2.00	31.0	15.600			



Recommended for lead-ins where interference is great. 18 Stranded tinned, cotton wrap, rubber covered, color coded, twisted pair; paper wrap and tinned copper shield over twisted pair—over-all white cotton braid; weather-proofed.

Shielded Twisted Pair

8209	75c	3.65	100	75.5*	1.29	24.2	.052		10000	250
			1500	76.8*	1.42	23.4	.270			
8209	500†	.05'	10000	77.7*	1.93	22.7	1.720			
			40000	77.7*	1.83	22.3	4.350			
			100000	79.2*	1.83	21.7	11.100			



22 Stranded tinned, paper wrap, rubber covered, color coded, twisted pair, over-all black cotton braid, weather-proofed.

Commercial Type Twisted Pair

8205	500†	.017'	100	92.5	5.74	23.8				
			1500	95.8	3.88	22.3				
			10000	96.0	3.63	21.3				

Signal Generator Cable

8211	50	.05'	100	25.4	2.2	93.5			350	
			1500	25.6	1.96	91.5				
			10000	25.7	2.8	90.7				

★New number *Values of surge impedance may vary ± 10% from the nominal 72 ohm or 100 ohm values †Length may vary ± 10% ○Coil All prices subject to change without notice

Belden ★ ★ ALL-RUBBER LEAD-IN WIRE

All-Rubber Lead-in Wire



Easy stripping—easy soldering. All made of 7 strands of tinned copper wire with extra thick rubber sheath as indicated. (.031" = 1/32")

Number	Length in Ft. on Spool	List Price each	Size	Rubber Thickness	Outside Diameter of Wire
8213	500	\$0.005'	20	.031"	.100"
8213	1000	.005'	20	.031"	.100"
8200	100	.007'	18	.040"	.129"
8200	500	.007'	18	.040"	.129"
8200	1000	.007'	18	.040"	.129"
8201	50	.009'	16	.040"	.140"
8201	100	.009'	16	.040"	.140"
8201	250	.009'	16	.040"	.140"
8201	500	.009'	16	.040"	.140"
8201	1000	.009'	16	.040"	.140"
8202	50	.015'	14	.047"	.174"
8202	250	.015'	14	.047"	.174"

Belden Shielded Lead-in Wire



Size 16 Stranded, rubber thickness indicated, tinned copper shield. For any audio or radio frequency circuits.

Number	Length in Ft. on Spool	List Price Each	Rubber Wall	Frequency (Kc.)	Surge Impedance (Ohms)	Power Factor (Per Cent)	Maximum Capacity mmf. per Ft.
8206	50'	\$0.025'	1/32"	100	33.0	2.0	64.5
8206	250'	.025'		1500	33.5	1.78	63.0
				10000	33.8	1.52	62.0
8207	250'	.03'	4/64"	100	68.9	2.88	57.5
				1500	70.0	2.44	55.0
				10000	73.2	2.12	50.5

Belden Terminals



8995 8996 8997 8998 8999

Tinned—easy to solder—packed in clearview cartons that are easy to stock and handle.

Screw Size	8	10	8	7	8
Number	8995	8996	8997	8998	8999
List Price	\$0.40C	\$0.40C	\$0.63C	\$0.40C	\$0.40C

Belden Terminal Assortment



8994—100 Assorted Belden Terminals in clearview carton. Includes:

20—8995	25—8997	35—8999
10—8996	10—8998	

8994—List price \$0.63C

Belden A-C—D-C Resistance Cords



To determine the proper a-c—d-c line cord, add the filament voltages of the individual tubes in the receiver. From the chart below, select the nearest figure under the heading SUM OF TUBE VOLTAGES in the column headed by the available power supply. Length 6 ft. Size 18.

Number	List Price each	Resistance (Ohms)	Color Marker	Voltage Drop at 0.3 Amps.	Sum of Tube Voltages		
					110V	115V	120V
8920	\$0.60	135	Olive	40.5	69.5	74.5	79.5
8921	.60	165	Maroon	49.5	60.5	65.5	70.5
8976	.60	180	Orange	54	56	61	66
8929	.60	220	Blue	66	44	49	54
8977	.60	250	Grey	75	35	40	45
8922	.60	290	Black	87	23	28	33
8923	.60	330	Brown	99	11	16	21

NOTE: Where other line voltages than those shown above must be used, subtract sum of tube voltages from available power supply. The nearest figure in voltage drop column will indicate proper a-c—d-c cord to use.

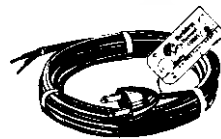
Universal A-C—D-C Resistance Cord

Replaces any resistance line cord on A-C—D-C receivers which employ tubes drawing 0.3 ampere. Provides resistances in steps from 22 to 330 ohms. Instructions with each cord. One cord services all jobs.

★8107 List price each \$1.50

Belden Replacement Cords

for Radios, Lamps, Small Appliances

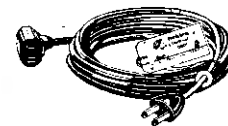


Consists of Belden Extra Flexible All-Rubber Lamp Cord with Belden Unbreakable Soft Rubber Plug; opposite end stripped and tinned—ready for easy attachment.

1725—7½ ft. brown only. List price each \$0.28

Belden Extension Cord

with Belden Soft Rubber Service Block



Both ends unbreakable rubber—can't mar floors or furniture—safe for use on table tops. Underwriters' Blue Label.

★1701—10 ft. brown only. List price each \$0.70

Belden Head Phone and Magnetic Speaker Cords

5 Foot cords of extra flexible moisture-proof rubber covered tinsel cord, over-all durable mercerized brown cotton braid. "Y" arm sections additional 15", coupled in series.



8872—Head phone set pin tips all ends. List price each \$0.78

8873—Head phone set spade tips—4 phone ends, pin tips plug end. List price each \$0.78

8870—Magnetic speaker cord—pin tips both ends. List price each \$0.55



8871—Magnetic speaker cord—pin tips 1 end, spade tips opposite end. List price each \$0.55

★ New number

All prices subject to change without notice

Belden ★ MICROPHONE CABLE, Shielded, Rubber Sheathed



Use **8400** and **8401** for ribbon or crystal and single button carbon microphones—or low impedance transmission lines. Belden-developed low capacity rubber core and combination stranding of tinned copper and phosphor bronze wire give extra flexibility plus unusual tensile strength.

Use **8421** with heavier copper stranding where very low capacity is not essential.

8411—For lapel microphones.

8431—For phonograph pick-ups—(over-all cotton braid.)

Number	Length in Ft. on Spool	List Price Per Ft.	Number of Conductors	Size	MAXIMUM CAPACITY MMF PER FT.		
					Between Conductor and Shield	Between Conductors	Outside Diameter
8400	100	\$0.065	1	26	29		.215"
8400	500†	.065	1	26	29		.215"
8401	100	.075	1	26	25		.245"
8401	500†	.075	1	26	25		.245"
8421	100	.06	1	20	44		.260"
8421	500†	.06	1	20	44		.260"
8411	100	.045	1	26	35		.155"
★ 8431	100	.03	1	20	55		.160"



For single or multiple cell microphone, photoelectric cells and dual carbon microphone circuits wherein the shield may be employed as a common conductor, usually at ground potential.

Two Conductor—Crystal Microphone

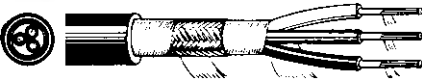
8402	100	.10	2	26	32	16	.245"
8402	500†	.10	2	26	32	16	.245"



For double-button carbon microphone circuits using the shield as the grounded connection and for low impedance, 50 to 500 ohm transmission lines—or for coupling a pre-amplifier to a power amplifier, employing the shield as a ground.

Two Conductor—Carbon Microphone

8422	100	.07	2	20	70	37	.280"
8422	500†	.07	2	20	70	37	.280"
8422	1000†	.07	2	20	70	37	.280"



For double-button carbon microphones feeding a mixer panel or circuits in which the diaphragm of the microphone must be above ground potential, yet shielded from transient fields.

For double-button carbon microphone circuits in which the attenuation control is located at the microphone and employs two of the four conductors of the cable.

For condenser microphone transmission line and power supply to microphone head amplifier.

For condenser microphone circuit with remote control switch or pilot light at microphone.

For auto-radio test instruments and acid resisting analyzer cable.

Three to Seven Conductor

8423	100	.075	3	20	65	37	.280"
8423	500†	.075	3	20	65	37	.280"
8424	100	.10	4	20	67	35	.325"
★ 8424	500†	.10	4	20	67	35	.325"
8425	100	.12	5	20	58	30	.380"
★ 8425	500†	.12	5	20	58	30	.380"
8426	100	.14	6	20	60	27	.410"
8427	100	.17	7	20	56	26	.430"



For temporary indoor installations of low impedance or carbon microphone transmission circuits. 20 (Stranded tinned), paper wrap, 1/64" rubber, color coded treated cotton braid, cabled, with tinned copper shield over all.

Shielded—Without Rubber Sheath

8432	100	.045	2	20	61	33	.215"
8432	500†	.045	2	20	61	33	.215"
8433	100	.055	3	20	55	30	.240"
8433	500†	.055	3	20	55	30	.240"
8434	100	.065	4	20	48	25	.270"

★New Number †Length may vary ± 10%

All prices subject to change without notice

Belden * MULTIPLE CONDUCTOR CABLE

Rubber Sheathed

For use as "A" battery lead wire. Size 10 (105x30 tinned) acid resisting rubber sheath. COLORS: red or black.

Number	Length in Ft. on Spool	List Price per ft.	No. Conductors	Thickness Rubber Sheath	Outside Diameter
8451	100	\$0.055	1	.047"	.240"



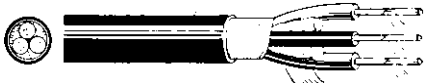
For permanent magnet dynamic speakers and general power supply cable. 18 (41x34) cotton wrap, 1/64" rubber, color coded, cabled with fillers, cotton wrap—over-all rubber sheath.

8452	100	.035	2	.035"	.245"
8452	500†	.035	2	.035"	.245"



Brown parallel all-rubber lamp cord for test equipment requiring power line connection. 18 (41x34), cotton wrap, 1/64" rubber.

8462	100	.02	2	1/64"	.120"x.225"
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For electro-dynamic speakers in which one audio circuit serves also as the return lead of the field supply and for speakers with a center-tapped input transformer requiring a three conductor cable. Construction same as 8452.

8453	100	.045	3	.040"	.265"
8453	500†	.045	3	.040"	.265"

Rubber Sheathed (Cont'd)

For four-wire a-c or electro-dynamic speaker lines. Two 18 (41x34) balance 20 (10x30). Size 18 wires—for lower resistance—ideal for speaker field or other heavy applications.

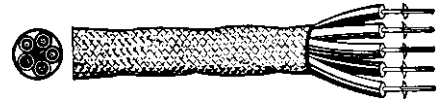
Number	Length in Ft. on Spool	List Price per ft.	No. Conductors	Thickness Rubber Sheath	Outside Diameter
8454	100	\$0.06	4	.040"	.260"
8454	500†	.06	4	.040"	.260"

For center-tapped push-pull dynamic speakers requiring an independent field supply circuit. Construction same as 8454.

8455	100	.075	5	.050"	.320"
8455	250†	.075	5	.050"	.320"

Over-all Glazed Cotton

Abrasion-proof "Basket-Weave" Braid



For permanent installation of speakers, remote control equipment, and multiple circuit, 500-ohm transmission lines.

Number	Length in Ft. on Spool	List Price per ft.	No. Conductors	Description	Outside Diameter
8443	100	\$0.03	3	20 (stranded tinned)	.190"
8443	500†	.03	3	paper wrap .020 rubber	.190"
8444	100	.035	4	balance, color coded, cabled, over-all brown braid.	.210"
8444	500†	.035	4		.210"
8445	100	.045	5		.230"
8445	500†	.045	5		.230"

For use where high current must be carried with a low potential drop.

8446	100	.06	6	2-16 (stranded tinned) 1/32" rubber	.290"
8447	100	.07	7	balance, 20 (stranded tinned). Otherwise same as 8443.	.310"
8448	100	.09	8		.370"
8449	100	.10	9		.400"

PA AND COMMUNICATING SYSTEM CABLES

Twisted Pair Type For Inside Use



Individual conductors, 22 concentric stranded tinned, cotton wrap, color coded cotton braid waxed, twisted pairs, cabled, over-all braid coated with cable lacquer or paint.

Number	Length in Ft. on Spool	List Price per ft.	No. Conductors	O.D.
*8701	500†	\$0.025	2 (1 pr.)	.135"
*8705	500†	.085	10 (5 pr.)	.350"
*8707	500†	.115	14 (7 pr.)	.405"
*8713	500†	.23	26 (13 pr.)	.600"
*8719	500†	.33	38 (19 pr.)	1.2"

Shielded Twisted Pair Type For Inside Use



19 Solid, double enameled, wrap cotton, color coded cotton braid waxed, twisted pair, over-all bare copper shield.

8799	100	.035	2	.145"
8799	500†	.035	2	.145"

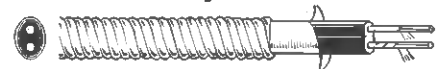
Twisted Pair Type For Inside or Outside Use



19 Solid tinned, 1/32" rubber, color coded cotton braid, waxed, tinned copper shield on one conductor, cabled with fillers, cotton braid, weather-proofed.

Number	Length in Ft. on Spool	List Price per ft.	No. Conductors	O.D.
8773	500†	\$0.055	2 (1 plain) (1 shielded)	.315"
8774	500†	.07	3 (2 plain) (1 shielded)	.380"

Armored Speaker Cable



18 Stranded tinned color coded cotton wrap, 2-conductors parallel, 1/64" rubber, paper wrap, over-all tinned steel armor.

8212	250†	\$0.045	2	.155"
8212	500†	.045	2	x
*8212	1000†	.045	2	.260"

8204—Unshielded Twisted Pair—See page 3.

8209—Shielded Twisted Pair—See page 3.

†Length may vary ± 10% *New number

All prices subject to change without notice

Belden ★ MAGNET WIRE—LITZ WIRE—AUTO-RADIO WIRE

Belden Magnet Wire Beldenamel

Size	Turns per Linear Inch	Turns per Square Inch	Approximate Length in Feet				
			25c List Spool	1/4 lb. Spool	List Price Each	1/2 lb. Spool	
14	14.7	217	20			39	\$0.45
16	18.6	345	30			60	.45
18	23.2	540	50			100	.45
20	29.2	851	75			160	.48
22	36.5	1330	120			250	.48
24	45.7	2090	175			400	.50
26	57.8	3340	250			635	.55
28	71.9	5170	340	505	\$0.34	1010	.60
30	89.0	7920	430	805	.38	1610	.67
32	110.7	12260	600	1275	.41	2550	.72
34	140.2	19650	800	2030	.48		
36	175.6	30840	900	3220	.55		
38	219.0	47970	900	5120	.72		
40	282.5	79810	900	8140	1.08		

Double Cotton Covered—White

14	13.3	176	20			39	\$0.48
16	16.2	262	30			60	.50
18	19.6	386	40			95	.53
20	23.6	556	55			150	.55
22	29.0	840	75			235	.57
24	34.3	1175	100			360	.65
26	40.2	1620	150	280	\$0.43		
28	46.6	2170	175	430	.48		
30	53.2	2835	200	645	.53		
32	59.7	3570	220	965	.62		
34	67.2	4510	250	1350	.81		
36	76.1	5790	275	1675	1.00		

Double Silk Covered—White

18	22.1	490	25	50	\$0.41	100	\$0.69
20	27.3	745	35	80	.43	160	.79
22	34.0	1153	55	125	.46	250	.79
24	41.5	1719	75	195	.50	395	.88
26	50.8	2576	100	310	.57	620	1.03
28	62.1	3853	120	490	.67		
30	75.0	5620	140	765	.81		
32	87.8	7710	165	1190	1.07		
34	100.5	10095	175	1785	1.60		
36	113.3	12842	200	2685	2.10		

Belden Litz Wire

For rewinding antenna primaries and for hand wound amateur r-f coils up to 30 megacycles.

8817—100 Ft. spool 7 x 41 Beldenamel with 2 wraps of tram silk. List price \$0.004'

8818—100 Ft. spool 10 x 41 Beldenamel with 2 wraps of tram silk. List price \$0.004'

Replacement Wires for Test Prods

The outstanding feature of this wire is its limpness. 18 Stranded, tinned, 3/64" rubber.

8899—100 Feet, red or black on spool. List price . . . \$0.02'

8899—14 Feet—Seven feet each color, red and black wound parallel on spool. List price each \$0.40

Shielded Fabric Loom



8657—50 ft. 3/16" I.D. in carton. List price \$0.065'

8658—50 ft. 5/16" I.D. in carton. List price \$0.08'

★New number

All prices subject to change without notice

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Belden Auto-Radio Wires Shielding



Tinned Copper—8661 fits 7 mm. spark plug wires.

Number	Length in Ft. on Spool	List Price	Inside Diameter
8661	50	\$0.045'	3/8"
8661	250	.045'	3/8"
8660	50	.025'	13/64"
8660	250	.025'	13/64"
8662	50	.125'	25/32"
8662	250	.125'	25/32"

Motor Grounding Cable

8659—14" Extra flexible braided copper strap. List price each \$0.25

Auto-Radio Shielded Low Capacitance Lead-In Wire



8663—100 Ft. 20 stranded tinned, cotton wrap, low capacity rubber, rayon braid, tinned copper shield over all. Maximum capacity between conductor and shield 33 mmf. O.D.—.225". List price \$0.05'

8664—100 Ft. same as 8663 with rubber sheath over-all. O.D.—.290". List price \$0.07'

Spark Plug Wires on 100-Ft. Spools Plain

★**8667**—7 mm. Belden Pyro-Glaze spark plug wire. List price \$0.10'

Shielded



8665—7 mm. Belden Pyro-Glaze spark plug wire with tinned copper shield. List price \$0.12'

8666—7 mm. commercial grade spark plug wire with tinned copper shield. List price \$0.085'

Automotive Primary Wires

Stranded tinned copper, wrap colored Cellophane, rubber wall, over-all glazed cotton braid lacquered. Colors: 8650 and 8653, orange; 8651 and 8652, red or black.

Number	Length in ft. on Spool	List Price per ft.	Size	Rubber Thickness	O.D.
Plain					
8650	100	\$0.05	12	.031"	.195"
8651	100	.04	14	.027"	.165"
8652	100	.03	16	.022"	.140"
8653	100	.025	18	.015"	.120"

Shielded



Construction same as above, with over-all fine copper shield.

8654	100	\$0.055	12	.031"	.225"
8655	100	.045	14	.027"	.195"
8656	100	.04	16	.022"	.170"

Belden ★ ★ ★ ★ ★ ★ ★ HOOK-UP WIRE

Size 20 special stranded tinned conductors have true concentric lay—giving desirable features of solid wire—yet retaining flexibility. Other stranded constructions are 18 (16x30); 14 (41x30).

Push-Back—Double Braid—Waxed

For filament, plate, screen rectifier, and "B" supply circuits where working voltage does not exceed 500 volts. Tinned copper—Colors: green, blue, red, yellow, and black.

Number	Length in Ft. on Spool	List Price each	Size	At Room Temperature and Humidity				Insulation* Resistance Megohms
				Frequency (Kc.)	Power Factor (Per Cent)	Q Value	Punct. Voltage at 60 Cycles	
SOLID								
8830	25C.	\$0.205	20				1400.	9.0
8830	1000	.008'	20					
8866	25C.	.26	18				1400.	9.0
8866	1000	.01'	18					
STRANDED								
8831	25C.	.24	20				1400.	9.0
8831	1000	.009'						
8867	25C.	.29	18				1400.	9.0
8867	1000	.01'						

Rubber Push-Back "Basket-Weave" Rayon Braid

Tinned copper, cotton wrap, .010" rubber, "basket-weave" abrasion-proof rayon braid lacquered. Colors: green, blue, red, yellow, and black.

Number	Length in Ft. on Spool	List Price each	Size	At Room Temperature and Humidity				Insulation* Resistance Megohms
				Frequency (Kc.)	Power Factor (Per Cent)	Q Value	Punct. Voltage at 60 Cycles	
SOLID								
8837	25	.31	20	100	6.78	14.7	6900.	300.
8837	100	.01'		1500	5.00	20.0		
8837	1000	.01'		10000	5.40	18.5		
STRANDED								
8838	25	.34	20	100	6.78	14.7	6900.	300.
8838	100	.01'		1500	5.00	20.0		
8838	1000	.01'		10000	5.40	18.5		

Cellulose Acetate Push-Back "Basket-Weave" Rayon Braid

Tinned copper, heavy wrap cellulose acetate, "basket-weave" abrasion-proof rayon braid lacquered. Colors: green, blue, red, yellow, and black. 8938-500' furnished in red and black only.

Number	Length in Ft. on Spool	List Price each	Size	At Room Temperature and Humidity				Insulation* Resistance Megohms
				Frequency (Kc.)	Power Factor (Per Cent)	Q Value	Punct. Voltage at 60 Cycles	
SOLID								
8941	25	.29	20	100	5.35	20.		
8941	100	.01'		1500	5.29	19.4	1550.	280.
8941	1000	.01'		10000	6.12	16.4		
8945	25	.31	18	100	5.35	20.		
8945	100	.01'		1500	5.29	19.4	1550.	280.
8945	1000	.01'		10000	6.12	16.4		
STRANDED								
8943	25	.31	20	100	5.35	20.		
8943	100	.01'		1500	5.29	19.4	1550.	280.
8943	1000	.01'		10000	6.12	16.4		
8947	25	.36	18	100	5.35	20.		
8947	100	.015'		1500	5.29	19.4	1550.	280.
8947	1000	.015'		10000	6.12	16.4		
8938	25	.53	14	100	5.35	20.		
8938	100	.02'		1500	5.29	19.4	1550.	280.
8938	500	.02'		10000	6.12	16.4		

Special Combinations

Combination packed in transparent dust-proof container includes four 25' coils, 8941 or 8943. Colors: black, red, yellow, green.

SOLID				
8864	100	1.15	20 (4-25' coils)	
STRANDED				
8865	100	1.25	20 (4-25' coils)	



* New number C—Coil *D.C. Insulation per ft. Immersed in Mercury (Megohms) †Length may vary ±10%

All prices subject to change without notice

Heavy Rubber Push-Back "Basket-Weave" Rayon Braid

Stranded tinned copper. 1/32" rubber, "basket-weave" abrasion proof rayon braid, lacquered. Colors: green, blue, red, yellow, black.

Number	Length in Ft. on Spool	List Price each	Size	At Room Temperature and Humidity				Insulation* Resistance Megohms
				Frequency (Kc.)	Power Factor (Per Cent)	Q Value	Punct. Voltage at 60 Cycles	
*8833	2550	.63	18				10000.	500.
*8833	100	.025'	18					
*8833	1000	.025'	18					

R-F Hook-Up Wire

Tinned copper with two specially treated cellulose acetate braids. Colors: green, blue, red, yellow, black, white, brown and orange.

Number	Length in Ft. on Spool	List Price each	Size	At Room Temperature and Humidity				Insulation* Resistance Megohms
				Frequency (Kc.)	Power Factor (Per Cent)	Q Value	Punct. Voltage at 60 Cycles	
SOLID								
8834	25	.48	22	100	1.79	56.	3800.	96000.
8834	100	.015'		1500	2.37	42.		
8841	25	.43	20	10000	2.71	34.		
8841	100	.015'		After 24 hrs. at 100° F. and 90% relative humidity.				
8861	25	.46	18	100	1.92	55.		
8861	100	.015'		1500	2.47	41.	3800.	49000.
8863	25	.53	16	10000	3.07	33.		
8863	100	.02'		After 2 hours in water at 121° F. 9600.				
STRANDED								
8810	25	.50	22	100	1.79	56.	3800.	96000.
8810	100	.02'		1500	2.37	42.		
8839	25	.45	20	10000	2.71	34.		
8839	100	.015'		After 24 hrs. at 100° F. and 90% relative humidity.				
8844	25	.50	18	100	1.92	55.		
8844	100	.018'		1500	2.47	41.	3800.	49000.
8862	25	.58	16	10000	3.07	33.		
8862	100	.02'		After 2 hours in water at 121° F. 9600.				

Colorubber

Stranded tinned copper, .025" rubber, waxed. Colors: green, blue, red, yellow, black and brown. 1000 Ft. spools in black, brown, and red only.

8880	25	.25	20				9000.	400.
8880	100	.007'						
8880	1000	.007'						

Varnished Cambric "Basket-Weave" Rayon Braid

Stranded tinned copper, two wraps varnished cambric tape, "basket-weave" abrasion-proof rayon braid lacquered. Colors: green, blue, red, yellow, and black. 8869 Furnished in red and black only.

8982	25	.45	20				4650.	425.
8982	100	.015'						
8982	1000	.015'						
8869	25	.76	12				4650.	425.

Shielded Grid Wire

Tinned copper, 1/64" rubber, rayon braid lacquered, over-all fine tinned copper shield of 85% coverage. OD = .120"

8885	100	.025'	20					
*8885	500†	.025'						

High Tension Corona Resistant for Cathode-Ray Television Tube Leads

Special rubber compound, high heat resisting Pyro-Glaze seal and braid of Belden Fiberglass (pure glass) protect this wire against corona and heat—make it suitable for the high voltages carried in cathode-ray tube television circuits. Color: white. O.D. = .200"

8868	25	2.30	18				15000.	
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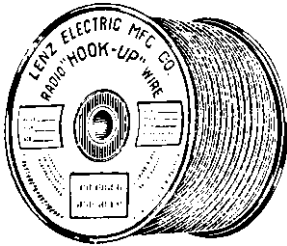
LENZ



WIRES *Quality Products* CABLES

RADIO HOOK-UP WIRE

(PUSH-BACK TYPE)



Consists of push-back non-fraying insulation, thoroughly saturated in MOISTURE-PROOF compound effective in reducing leakage. Has high insulation resistance and other essential dielectric properties. Can be furnished in SOLID or STRANDED, WAXED or LACQUERED. Neatly packed in attractive cartons or supplied on spools. Colors: Blue, Orange, Green, Brown, Slate, Red, Yellow, White and Black. If color is not specified, BLACK will be furnished.



WAXED HOOK-UP WIRE (BRADAX) DOUBLE COTTON BRAIDS WAXED

No. 22 SOLID TINNED COPPER			
Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea. List Price Each
1010	25' carton	20	.14 \$0.25
1011	50' carton	15	.24 .41
1012	100' spool	10	.45 .82
1013	1000' spool	1	4.7 6.75

No. 20 SOLID TINNED COPPER			
Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea. List Price Each
1022	25' carton	20	.17 \$0.27
1023	50' carton	15	.31 .48
1024	100' spool	10	.58 .93
1025	1000' spool	1	6.1 7.74

No. 18 SOLID TINNED COPPER			
Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea. List Price Each
1035	25' carton	20	.17 \$0.31
1036	50' carton	15	.35 .56
1037	100' spool	10	.7 1.11
1038	1000' spool	1	7.7 9.64

No. 22 STRANDED TINNED COPPER			
Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea. List Price Each
1016	25' carton	20	.14 \$0.27
1017	50' carton	15	.24 .47
1018	100' spool	10	.45 1.38
1019	1000' spool	1	4.7 7.58

No. 20 STRANDED TINNED COPPER			
Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea. List Price Each
1028	25' carton	20	.17 \$0.29
1029	50' carton	15	.31 .52
1030	100' spool	10	.58 1.03
1031	1000' spool	1	6.1 6.80

No. 18 STRANDED TINNED COPPER			
Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea. List Price Each
1041	25' carton	20	.17 \$0.34
1042	50' carton	15	.35 .62
1043	100' spool	10	.7 1.24
1044	1000' spool	1	7.7 10.87

No. 16 SOLID TINNED COPPER			
Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea. List Price Each
1710	25' carton	20	.25 \$0.36
1711	50' spool	15	.5 .72
1712	100' spool	10	1.0 1.33
1713	1000' spool	1	11.0 11.82

No. 14 SOLID TINNED COPPER			
Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea. List Price Each
1910	25' carton	20	.35 \$0.45
1911	50' spool	15	.70 .88
1912	100' spool	10	1.4 1.63
1913	1000' spool	1	14.0 14.84

No. 16 STRANDED TINNED COPPER			
Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea. List Price Each
1816	25' carton	20	.25 \$0.43
1817	50' spool	15	.5 .84
1818	100' spool	10	1.0 1.56
1819	1000' spool	1	11.0 14.05

No. 14 STRANDED TINNED COPPER			
Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea. List Price Each
1916	25' carton	20	.35 \$0.53
1917	50' spool	15	.70 1.05
1918	100' spool	10	1.4 1.97
1919	1000' spool	1	14.0 18.23

LACQUERED FLAME-RESISTING HOOK-UP WIRE (BRALAC) DOUBLE COTTON BRAIDS LACQUERED

No. 22 SOLID TINNED COPPER			
Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea. List Price Each
1050	25' carton	20	.14 \$0.26
1051	50' carton	15	.24 .46
1052	100' spool	10	.45 .89
1053	1000' spool	1	4.7 7.37

No. 20 SOLID TINNED COPPER			
Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea. List Price Each
1070	25' carton	20	.17 \$0.28
1071	50' carton	15	.31 .51
1072	100' spool	10	.58 1.01
1073	1000' spool	1	6.1 8.53

No. 18 SOLID TINNED COPPER			
Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea. List Price Each
1220	25' carton	20	.17 \$0.34
1221	50' carton	15	.35 .61
1222	100' spool	10	.7 1.22
1223	1000' spool	1	7.7 10.70

No. 22 STRANDED TINNED COPPER			
Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea. List Price Each
1060	25' carton	20	.14 \$0.28
1061	50' carton	15	.24 .50
1062	100' spool	10	.45 .98
1063	1000' spool	1	4.7 8.27

No. 20 STRANDED TINNED COPPER			
Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea. List Price Each
1080	25' carton	20	.17 \$0.31
1081	50' carton	15	.31 .57
1082	100' spool	10	.58 1.11
1083	1000' spool	1	6.1 9.59

No. 18 STRANDED TINNED COPPER			
Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea. List Price Each
1230	25' carton	20	.17 \$0.37
1231	50' carton	15	.35 .68
1232	100' spool	10	.7 1.35
1233	1000' spool	1	7.7 11.93

WAXED HOOK-UP WIRE (LENZITE)

TWO WRAPS CELLULOSE ACETATE TEXTILE PLUS ONE COTTON BRAID WAXED

No. 22 SOLID TINNED COPPER			
Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea. List Price Each
1310	25' carton	20	.14 \$0.25
1311	50' carton	15	.24 .41
1312	100' spool	10	.45 .82
1313	1000' spool	1	4.7 6.25

No. 20 SOLID TINNED COPPER			
Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea. List Price Each
1322	25' carton	20	.17 \$0.27
1323	50' carton	15	.31 .48
1324	100' spool	10	.58 .93
1325	1000' spool	1	6.1 7.74

No. 18 SOLID TINNED COPPER			
Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea. List Price Each
1335	25' carton	20	.17 \$0.31
1336	50' carton	15	.35 .56
1337	100' spool	10	.7 1.11
1338	1000' spool	1	7.7 9.64

No. 22 STRANDED TINNED COPPER			
Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea. List Price Each
1316	25' carton	20	.14 \$0.27
1317	50' carton	15	.24 .47
1318	100' spool	10	.45 1.38
1319	1000' spool	1	4.7 7.58

No. 20 STRANDED TINNED COPPER			
Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea. List Price Each
1328	25' carton	20	.17 \$0.29
1329	50' carton	15	.31 .52
1330	100' spool	10	.58 1.03
1331	1000' spool	1	6.1 6.80

No. 18 STRANDED TINNED COPPER			
Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea. List Price Each
1341	25' carton	20	.17 \$0.34
1342	50' carton	15	.35 .62
1343	100' spool	10	.7 1.24
1344	1000' spool	1	7.7 10.87

No. 16 SOLID TINNED COPPER			
Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea. List Price Each
1825	25' carton	20	.25 \$0.38
1826	50' spool	15	.5 .77
1827	100' spool	10	1.0 1.42
1828	1000' spool	1	10.0 12.67

No. 14 SOLID TINNED COPPER			
Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea. List Price Each
1925	25' carton	20	.35 \$0.48
1926	50' spool	15	.7 .93
1927	100' spool	10	1.4 1.74
1928	1000' spool	1	14.0 15.85

No. 16 STRANDED TINNED COPPER			
Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea. List Price Each
1831	25' carton	20	.25 \$0.46
1832	50' spool	15	.5 .90
1833	100' spool	10	1.0 1.67
1834	1000' spool	1	10.0 15.21

No. 14 STRANDED TINNED COPPER			
Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea. List Price Each
1931	25' carton	20	.35 \$0.63
1932	50' spool	15	.7 1.16
1933	100' spool	10	1.4 2.20
1934	1000' spool	1	14.0 20.57

Coils furnished without cartons—deduct two cents each from list price. All prices subject to change without notice.



LENZ



WIRES *Quality Products* CABLES

LACQUERED FLAME RESISTING HOOK - UP WIRE (LENZAC)

Two Wraps Cellulose Acetate Textile Plus One Cotton Braid Lacquered

No. 22 SOLID TINNED COPPER

Cat. No.	Put-up	Standard Package	Wt. Ea. in lbs.	List Price Each
1350	25-ft. carton	20	.14	\$0.26
1351	50-ft. carton	15	.24	.46
1352	100-ft. spool	10	.45	.69
1353	1000-ft. spool	1	4.7	7.37

No. 20 SOLID TINNED COPPER

1370	25-ft. carton	20	.17	\$0.28
1371	50-ft. carton	15	.31	.51
1372	100-ft. spool	10	.58	1.01
1373	1000-ft. spool	1	6.1	8.53

No. 18 SOLID TINNED COPPER

1391	25-ft. carton	20	.17	\$0.34
1392	50-ft. carton	15	.35	.61
1393	100-ft. spool	10	.7	1.22
1394	1000-ft. spool	1	7.7	10.70

No. 22 STRANDED TINNED COPPER

Cat. No.	Put-up	Standard Package	Wt. Ea. in lbs.	List Price Each
1360	25-ft. carton	20	.14	\$0.28
1361	50-ft. carton	15	.24	.50
1362	100-ft. spool	10	.45	.98
1363	1000-ft. spool	1	4.7	8.27

No. 20 STRANDED TINNED COPPER

1380	25-ft. carton	20	.17	\$0.31
1381	50-ft. carton	15	.31	.57
1382	100-ft. spool	10	.58	1.11
1383	1000-ft. spool	1	6.1	9.59

No. 18 STRANDED TINNED COPPER

1395	25-ft. carton	20	.17	\$0.37
1396	50-ft. carton	15	.35	.68
1397	100-ft. spool	10	.7	1.35
1398	1000-ft. spool	1	7.7	11.93

Coils furnished without cartons — deduct two cents each from list price.

R.F. CIRCUIT HOOK - UP WIRE (PUSH - BACK TYPE)

A wire with insulation of extremely low losses at high frequencies. Designed especially for wiring the SWITCHING SYSTEM, AVC, PLATE and GRID of RF stages. Conductors supplied in several sizes either solid or stranded. Insulation pushes back freely without adhering to the conductor, and is mechanically strong enough to resist abrasion. A fine production wire with insulation impregnated in a high-resistant, low-loss, moisture-resisting compound.

No. 22 SOLID TINNED COPPER

Cat. No.	Put-up	Standard Package	Wt. Ea. in lbs.	List Price Each
900	25-ft. carton	15	.16	\$0.37
901	50-ft. carton	10	.24	.68
902	100-ft. spool	5	.45	1.34
903	1000-ft. spool	1	4.7	11.81

No. 22 STRANDED TINNED COPPER

910	25-ft. carton	15	.16	\$0.38
911	50-ft. carton	10	.24	.72
912	100-ft. spool	5	.45	1.42
913	1000-ft. spool	1	4.7	12.72

No. 20 SOLID TINNED COPPER

920	25-ft. carton	15	.17	\$0.39
921	50-ft. carton	10	.31	.73
922	100-ft. spool	5	.58	1.45
923	1000-ft. spool	1	6.1	12.99

No. 20 STRANDED TINNED COPPER

930	25-ft. carton	15	.17	\$0.42
931	50-ft. carton	10	.31	.79
932	100-ft. spool	5	.58	1.57
933	1000-ft. spool	1	6.1	14.20

No. 18 SOLID TINNED COPPER

Cat. No.	Put-up	Stranded Package	Wt. Ea. in lbs.	List Price Each
940	25-ft. carton	15	.19	\$0.43
941	50-ft. carton	10	.35	.80
942	100-ft. spool	5	.70	1.59
943	1000-ft. spool	1	7.7	14.47

No. 18 STRANDED TINNED COPPER

950	25-ft. carton	15	.19	\$0.48
951	50-ft. carton	10	.35	.90
952	100-ft. spool	5	.70	1.79
953	1000-ft. spool	1	7.7	16.43

No. 16 SOLID TINNED COPPER

960	25-ft. carton	15	.28	\$0.51
961	50-ft. carton	10	.52	.96
962	100-ft. spool	5	1.10	1.86
963	1000-ft. spool	1	11.25	17.76

No. 16 STRANDED TINNED COPPER

970	25-ft. carton	15	.28	\$0.58
971	50-ft. carton	10	.52	1.11
972	100-ft. spool	5	1.10	2.21
973	1000-ft. spool	1	11.25	20.67

COLORS: White with red tracer; white—blue tracer; white—green tracer; white—yellow tracer; white—brown tracer; white—orange tracer; white—black tracer; and plain white.

Coils furnished without cartons — deduct two cents each from list price.

LACQUERED HI - VOLTAGE PLATE CIRCUIT TRANSMITTER HOOK - UP WIRE (DULAC)

Insulation Consists of Varnished Cambric Plus Lacquered Outer Braid

No. 18 STRANDED TINNED COPPER

Cat. No.	Put-up	Standard Package	Wt. Ea. in lbs.	List Price Each
2000	25-ft. carton	15	.2	\$0.55
2014	50-ft. spool	10	.4	1.08
2015	100-ft. spool	5	.8	2.06
2016	1000-ft. spool	1	8.0	19.08

No. 16 STRANDED TINNED COPPER

Cat. No.	Put-up	Standard Package	Wt. Ea. in lbs.	List Price Each
2020	25-ft. carton	15	1.0	\$0.65
2021	50-ft. spool	10	2.0	1.27
2022	100-ft. spool	5	5.5	2.44
2023	1000-ft. spool	1	11.0	22.94

COLORS: Blue, Orange, Green, Brown, Slate, Red, Yellow, White, or Black
Coils furnished without cartons — deduct two cents each from list price

All prices subject to change without notice

LENZ

WIRES *Quality Products* CABLES

SHIELDED LEAD-IN AND GROUND WIRE FREE STRIPPING RUBBER

Consists of FLEXIBLE tinned copper conductors, heavy wall of FREE STRIP rubber and CLOSELY WOVEN tinned copper shield. Shield can be grounded, reducing interference, resulting in better reception.



No. 18 FLEXIBLE 1/32" R.C.				No. 16 FLEXIBLE 1/32" R.C.				No. 14 FLEXIBLE 1/32" R.C.			
Cat. No.	Put-up	Std. Wt. Pkg. in lbs.	List Price Each	Cat. No.	Put-up	Std. Wt. Pkg. in lbs.	List Price Each	Cat. No.	Put-up	Std. Wt. Pkg. in lbs.	List Price Each
1100	50-ft. carton	5 1.1	\$1.35	1102	50-ft. carton	5 1.4	\$1.62	1104	50-ft. carton	5 1.8	\$1.95
1101	250-ft. spool	1 5.9	6.90	1103	250-ft. spool	1 7.2	8.10	1105	250-ft. spool	1 9.0	9.75
1101A	500-ft. spool	1 11.8	13.50	1103A	500-ft. spool	1 14.4	15.95	1105A	500-ft. spool	1 18.0	19.25

SHIELDED LEAD-IN AND GROUND WIRE WITH WAXED COTTON BRAID UNDER-SHIELD

Consists of FLEXIBLE tinned copper conductors, heavy wall of FREE STRIP rubber, plus WAXED COTTON BRAID and CLOSELY WOVEN tinned copper shield.

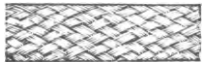
No. 18 FLEXIBLE 1/32" R.C.				No. 16 FLEXIBLE 1/32" R.C.				No. 14 FLEXIBLE 1/32" R.C.			
Cat. No.	Put-up	Std. Wt. Pkg. in lbs.	List Price Each	Cat. No.	Put-up	Std. Wt. Pkg. in lbs.	List Price Each	Cat. No.	Put-up	Std. Wt. Pkg. in lbs.	List Price Each
118	50-ft. carton	5 1	\$1.50	116	50-ft. carton	5 1.3	\$1.85	114	50-ft. carton	5 1.6	\$2.15
118A	250-ft. spool	1 5.5	7.45	116A	250-ft. spool	1 7	9.15	114A	250-ft. spool	1 8.5	10.75
118B	500-ft. spool	1 11.0	14.65	116B	500-ft. spool	1 14.0	18.10	114B	500-ft. spool	1 17.0	21.25

BLACK POLISHED RUBBER COVERED LEAD-IN AND GROUND WIRE

Conductor consists of stranded clean tinned copper wire. Insulation—high quality live rubber, easily stripped. Put up in attractive CARTONS and on SPOOLS.

No. 18 FLEXIBLE 1/32" R.C.				No. 16 FLEXIBLE 1/32" R.C.				No. 14 FLEXIBLE 1/32" R.C.			
Cat. No.	Put-up	Std. Wt. Pkg. in lbs.	List Price Each	Cat. No.	Put-up	Std. Wt. Pkg. in lbs.	List Price Each	Cat. No.	Put-up	Std. Wt. Pkg. in lbs.	List Price Each
1094	50-ft. carton	15 .45	\$0.55	1097	50-ft. carton	15 .90	\$0.70	1510	50-ft. carton	15 1.0	\$0.90
1095	100-ft. spool	10 .95	.98	1098	100-ft. spool	10 1.75	1.38	1511	100-ft. spool	10 2.0	1.80
1095B	500-ft. spool	2 2.5	5.10	1098B	500-ft. spool	2 9.0	6.70	1511B	500-ft. spool	2 11.0	8.90
1096	1000-ft. spool	1 5.0	10.00	1099	1000-ft. spool	1 17.8	13.15	1512	1000-ft. spool	1 21.0	17.62

TINNED COPPER SHIELDING AND BONDING BRAIDS



Conveniently furnished on spools in complete range of various widths. Used for general shielding purposes, especially auto radio. Wider widths used for bonding purposes, especially where automotive floating power exists.

1/8" Wide—Opens to 7/32"				1/4" Wide—Opens to 3/8"				9/16" Wide—Opens to 15/16"			
Cat. No.	Put-up	Std. Wt. Pkg. in lbs.	List Price Each	Cat. No.	Put-up	Std. Wt. Pkg. in lbs.	List Price Each	Cat. No.	Put-up	Std. Wt. Pkg. in lbs.	List Price Each
1208	50-ft. spool	5 .4	\$0.95	1212	50-ft. spool	5 1.4	\$1.70	1216	50-ft. spool	5 2.4	\$3.45
1208A	100-ft. spool	3 1.0	1.75	1212A	100-ft. spool	3 2.8	3.42	1216A	100-ft. spool	3 4.8	6.80
1209	250-ft. spool	1 2.5	4.15	1213	250-ft. spool	1 4.7	7.78	1217	250-ft. spool	1 9.6	15.50
1209B	500-ft. spool	1 5.0	7.75	1213B	500-ft. spool	1 9.4	15.40	1217B	500-ft. spool	1 19.2	30.78
3/16" Wide—Opens to 1/4"				3/8" Wide—Opens to 7/16"				11/16" Wide—Opens to 1 1/4"			
Cat. No.	Put-up	Std. Wt. Pkg. in lbs.	List Price Each	Cat. No.	Put-up	Std. Wt. Pkg. in lbs.	List Price Each	Cat. No.	Put-up	Std. Wt. Pkg. in lbs.	List Price Each
1210	50-ft. spool	5 1.1	\$1.35	1214	50-ft. spool	5 1.7	\$2.15	1218	50-ft. spool	5 3.2	\$5.55
1210A	100-ft. spool	3 2.2	2.35	1214A	100-ft. spool	3 3.4	4.25	1218A	100-ft. spool	3 6.4	11.15
1211	250-ft. spool	1 3.7	5.85	1215	250-ft. spool	1 6.7	10.13	1219	250-ft. spool	1 13.3	25.00
1211B	500-ft. spool	1 7.4	11.50	1215B	500-ft. spool	1 13.4	20.00	1219B	500-ft. spool	1 26.6	49.80

All prices subject to change without notice.

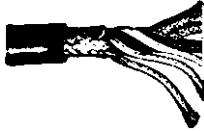


LENZ



WIRES *Quality Products* CABLES

Shielded Rubber Jacketed Microphone Cables



Conductors all color-coded. Braided with tinned copper shield. Heavy Jacket Tough Black Polished Rubber applied overall. Will withstand severe service. Adaptable to carbon, condenser, and moving coil microphones. POSITIVELY WATERPROOF—excellent for field microphones.

Cat. No.	Put-up	Approx. O.D.	Std. Pkg.	Wt. Ea. Lbs.	List Price Each
1185	100-ft. spool, 2-conductor	1/8"	1	7.5	\$7.65
1186	250-ft. spool, 2-conductor	1/8"	1	20.7	19.55
1186A	500-ft. spool, 2-conductor	1/8"	1	39.4	38.13
1187	100-ft. spool, 3-conductor	3/16"	1	9.5	8.40
1188	250-ft. spool, 3-conductor	3/16"	1	25.7	21.45
1188A	500-ft. spool, 3-conductor	3/16"	1	49.4	41.98
1180	100-ft. spool, 4-conductor	3/8"	1	10.0	9.65
1181	250-ft. spool, 4-conductor	3/8"	1	27.0	24.58
1181A	500-ft. spool, 4-conductor	3/8"	1	52.0	48.20
1182	100-ft. spool, 5-conductor	3/8"	1	10.5	11.95
1183	250-ft. spool, 5-conductor	3/8"	1	28.0	30.30
1183A	500-ft. spool, 5-conductor	3/8"	1	54.0	59.58
1189	100-ft. spool, 6-conductor	7/16"	1	15.0	13.98
1190	250-ft. spool, 6-conductor	7/16"	1	39.0	35.30
1190A	500-ft. spool, 6-conductor	7/16"	1	76.0	69.63

Shielded Rubber Jacketed Microphone Cables Light Weight

Cat. No.	Put-up	Approx. O.D.	Std. Pkg.	Wt. Ea. Lbs.	List Price Each
1800	100-ft. spool, 2-conductor	5/32"	1	3.6	\$6.08
1801	250-ft. spool, 2-conductor	5/32"	1	9.5	15.65
1802	500-ft. spool, 2-conductor	5/32"	1	17.0	30.28
1810	100-ft. spool, 3-conductor	3/16"	1	5.0	6.95
1811	250-ft. spool, 3-conductor	3/16"	1	14.5	17.82
1812	500-ft. spool, 3-conductor	3/16"	1	22.0	34.65

Special Extra Flexible Shielded Rubber Jacketed Microphone Cable

Conductors of EXTRA FLEXIBLE CONSTRUCTION. Closely woven tinned copper shield, heavy Jacket Tough Black Polished Rubber overall.

Cat. No.	Put-up	Approx. O.D.	Std. Pkg.	Wt. Ea. Lbs.	List Price Each
1192	100-ft. spool, 3-conductor	1/4"	1	6.4	\$9.90
1193	250-ft. spool, 3-conductor	1/4"	1	18.0	24.40
1193A	500-ft. spool, 3-conductor	1/4"	1	34.0	49.25

Crystal Microphone Cable Shielded—Rubber Jacketed



The conductor is extremely flexible. Insulation is of low loss, high di-electric characteristics. A closely-woven tinned copper shield is applied, over which is placed a durable, high-quality rubber jacket.

SINGLE CONDUCTOR

Cat. No.	Put-up	Approx. O.D.	Std. Pkg.	Wt. Ea. Lbs.	List Price Each
1252	100-ft. spool	7/32"	3	3.0	\$6.68
1253	250-ft. spool	7/32"	1	6.75	16.33
1253A	500-ft. spool	7/32"	1	13.5	33.23

TWO-CONDUCTOR

Cat. No.	Put-up	Approx. O.D.	Std. Pkg.	Wt. Ea. Lbs.	List Price Each
1254	100-ft. spool	1/4"	1	3.55	\$7.98
1255	250-ft. spool	1/4"	1	8.80	19.58
1255A	500-ft. spool	1/4"	1	17.6	37.85

Shielded Cables



Flexible tinned copper conductors plus good grade of rubber insulation. Each conductor braided with color-coded cotton braid, thoroughly saturated in MOISTURE-PROOF compound, CLOSELY WOVEN tinned copper shield overall. Especially adaptable to AUTO RADIO, PUBLIC ADDRESS SYSTEMS and SOUND RECORDING EQUIPMENT.

NO. 20 FLEXIBLE R.C. COTTON BRAID CONDS.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. Lbs.	List Price Each
1110	100-ft. spool, 2-conductor No. 20	3	3.3	\$4.84
1111	250-ft. spool, 2-conductor No. 20	1	7.4	11.18
1111A	500-ft. spool, 2-conductor No. 20	1	16.8	21.75
1112	100-ft. spool, 3-conductor No. 20	3	4.7	6.52
1113	250-ft. spool, 3-conductor No. 20	1	10.7	15.17
1113A	500-ft. spool, 3-conductor No. 20	1	23.4	29.45
1114	100-ft. spool, 4-conductor No. 20	3	5.6	7.17
1115	250-ft. spool, 4-conductor No. 20	1	15.1	17.60
1115A	500-ft. spool, 4-conductor No. 20	1	28.2	35.75
1116	100-ft. spool, 5-conductor No. 20	3	6.5	9.46
1117	250-ft. spool, 5-conductor No. 20	1	16.8	22.26
1117A	500-ft. spool, 5-conductor No. 20	1	31.6	42.98
1118	100-ft. spool, 6-conductor No. 20	3	7.5	11.30
1119	250-ft. spool, 6-conductor No. 20	1	18.6	26.67
1119A	500-ft. spool, 6-conductor No. 20	1	35.2	51.32

NO. 18 FLEXIBLE R.C. COTTON BRAID CONDS.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. Lbs.	List Price Each
1120	100-ft. spool, 2-conductor No. 18	3	3.8	\$5.72
1121	250-ft. spool, 2-conductor No. 18	1	8.6	13.25
1121A	500-ft. spool, 2-conductor No. 18	1	19.2	25.83
1122	100-ft. spool, 3-conductor No. 18	3	5.4	7.50
1123	250-ft. spool, 3-conductor No. 18	1	14.7	17.55
1123A	500-ft. spool, 3-conductor No. 18	1	27.4	34.00
1124	100-ft. spool, 4-conductor No. 18	3	7.0	9.60
1125	250-ft. spool, 4-conductor No. 18	1	18.2	22.58
1125A	500-ft. spool, 4-conductor No. 18	1	34.4	43.55
1126	100-ft. spool, 5-conductor No. 18	3	8.2	11.11
1127	250-ft. spool, 5-conductor No. 18	1	21.6	26.18
1127A	500-ft. spool, 5-conductor No. 18	1	41.2	50.40
1128	100-ft. spool, 6-conductor No. 18	3	9.8	13.12
1129	250-ft. spool, 6-conductor No. 18	1	25.0	30.95
1129A	500-ft. spool, 6-conductor No. 18	1	48.0	59.48



Shielded Cables Cotton Braid Overall

NO. 20 FLEXIBLE R.C. COTTON BRAID CONDS.

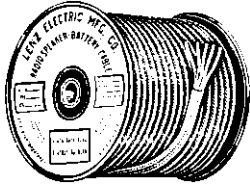
Cat. No.	Put-up	Std. Pkg.	Wt. Ea. Lbs.	List Price Each
1160	100-ft. spool, 2-conductor No. 20	3	3.5	\$5.88
1161	250-ft. spool, 2-conductor No. 20	1	8.0	13.68
1161A	500-ft. spool, 2-conductor No. 20	1	18.0	26.58
1162	100-ft. spool, 3-conductor No. 20	3	4.9	7.73
1163	250-ft. spool, 3-conductor No. 20	1	11.1	18.06
1163A	500-ft. spool, 3-conductor No. 20	1	24.2	34.98
1164	100-ft. spool, 4-conductor No. 20	3	6.0	8.43
1165	250-ft. spool, 4-conductor No. 20	1	16.0	20.73
1165A	500-ft. spool, 4-conductor No. 20	1	30.0	42.00
1166	100-ft. spool, 5-conductor No. 20	3	7.3	10.92
1167	250-ft. spool, 5-conductor No. 20	1	12.5	25.73
1167A	500-ft. spool, 5-conductor No. 20	1	33.0	49.55
1168	100-ft. spool, 6-conductor No. 20	3	8.0	12.83
1169	250-ft. spool, 6-conductor No. 20	1	20.0	30.32
1169A	500-ft. spool, 6-conductor No. 20	1	38.0	58.30

NO. 18 FLEXIBLE R.C. COTTON BRAID CONDS.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. Lbs.	List Price Each
1170	100-ft. spool, 2-conductor No. 18	3	4.2	\$7.04
1171	250-ft. spool, 2-conductor No. 18	1	11.5	16.41
1171A	500-ft. spool, 2-conductor No. 18	1	21.0	31.83
1172	100-ft. spool, 3-conductor No. 18	3	6.2	8.87
1173	250-ft. spool, 3-conductor No. 18	1	15.0	20.87
1173A	500-ft. spool, 3-conductor No. 18	1	28.0	40.30
1174	100-ft. spool, 4-conductor No. 18	3	7.4	11.14
1175	250-ft. spool, 4-conductor No. 18	1	19.2	26.36
1175A	500-ft. spool, 4-conductor No. 18	1	36.4	50.55
1176	100-ft. spool, 5-conductor No. 18	3	8.7	12.76
1177	250-ft. spool, 5-conductor No. 18	1	22.0	30.10
1177A	500-ft. spool, 5-conductor No. 18	1	42.0	57.95
1178	100-ft. spool, 6-conductor No. 18	3	10.4	14.80
1179	250-ft. spool, 6-conductor No. 18	1	26.5	34.94
1179A	500-ft. spool, 6-conductor No. 18	1	51.0	67.08

LENZ

WIRES *Quality Products* CABLES



DYNAMIC SPEAKER EXTENSION CABLE

Individual conductors consist of flexible tinned copper, rubber insulation and color-coded cotton braid. Brown cotton braid applied overall. Suitable for either permanent or portable PUBLIC ADDRESS systems.

No. 20 STRANDED CONDUCTORS

Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea.	List Price Each
1139	100-ft. spool, 2 conductor, No. 20	3	2.0	\$3.20
5139	500-ft. spool, 2 conductor, No. 20	1	12.0	15.90
1140	100-ft. spool, 3 conductor, No. 20	3	2.7	4.20
5140	500-ft. spool, 3 conductor, No. 20	1	15.5	20.88
1141	100-ft. spool, 4 conductor, No. 20	3	3.5	5.28
5141	500-ft. spool, 4 conductor, No. 20	1	19.5	26.28
1142	100-ft. spool, 5 conductor, No. 20	3	4.0	6.18
5142	500-ft. spool, 5 conductor, No. 20	1	22.0	30.73
1143	100-ft. spool, 6 conductor, No. 20	3	5.0	7.20
5143	500-ft. spool, 6 conductor, No. 20	1	27.0	35.90
1144	100-ft. spool, 7 conductor, No. 20	3	6.0	8.33
5144	500-ft. spool, 7 conductor, No. 20	1	32.0	41.45

No. 16 & No. 20 STRANDED CONDUCTORS

Cable consists of two heavy conductors for voice-coil circuit.

Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea.	List Price Each
1141A	100-ft. spl., 4 cond., 2 No. 16 and 2 No. 20	3	4.5	\$6.53
1141B	500-ft. spl., 4 cond., 2 No. 16 and 2 No. 20	1	24.5	32.48
1142A	100-ft. spl., 5 cond., 2 No. 16 and 3 No. 20	3	5.6	7.58
1142B	500-ft. spl., 5 cond., 2 No. 16 and 3 No. 20	1	30.0	37.83
1143A	100-ft. spl., 6 cond., 2 No. 16 and 4 No. 20	3	6.6	8.60
1143B	500-ft. spl., 6 cond., 2 No. 16 and 4 No. 20	1	35.0	42.93
1144A	100-ft. spl., 7 cond., 2 No. 16 and 5 No. 20	3	7.6	9.63
1144B	500-ft. spl., 7 cond., 2 No. 16 and 5 No. 20	1	40.0	48.05

RUBBER JACKETED DYNAMIC SPEAKER EXTENSION CABLE

Heavy Tough Rubber Jacket Applied Overall—Suitable for Portable Public Address Systems (Not Shielded)

No. 20 STRANDED CONDUCTORS

Cat. No.	Put-up	Approx. O.D.	Std. Pkg. in lbs.	Wt. Ea.	List Price Each
1700	100-ft. spool, 4 conductor	5/16"	1	6.5	\$7.15
1701	500-ft. spool, 4 conductor	5/16"	1	34.5	35.57

No. 16 & No. 20 STRANDED CONDUCTORS

Cat. No.	Put-up	Approx. O.D.	Std. Pkg. in lbs.	Wt. Ea.	List Price Each
1700A	100-ft. spool, 4 conductor	13/32"	1	8.0	\$9.43
1700B	500-ft. spool, 4 conductor	13/32"	1	42.0	46.92

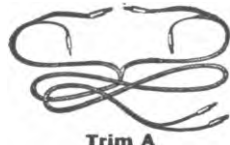
HEAD SET CORDS

DOUBLE HEAD-SET CORDS

Trim A has pin tips on all ends. Trim B has loop tips on head-set end and pin tips opposite end. Mercerized cotton braid.

CAT. No. 1225A

5-Ft. Lengths—Trim A

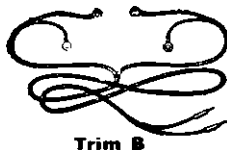


Quantity	Weight in lbs.	List Price Per Cord
Lots of 12	.6	\$0.55
Lots of 25	1.3	.52
Lots of 100	5.2	.46

CAT. No. 1225B

5-Ft. Lengths—Trim B

Quantity	Weight in lbs.	List Price Per Cord
Lots of 12	.6	\$0.55
Lots of 25	1.3	.52
Lots of 100	5.2	.46



SINGLE PHONE CORDS

Also Used on Magnetic Speakers and Electric Pickups

Construction — Good grade tinsel conductor, well insulated. Overall braid mercerized cotton.

CAT. No. 1235A

5-Ft. Lengths—Trim A

Quantity	Weight in lbs.	List Price Per Cord
Lots of 12	.5	\$0.39
Lots of 25	1.2	.35
Lots of 100	4.8	.32



CAT. No. 1235B

5-Ft. Lengths—Trim B



Quantity	Weight in lbs.	List Price Per Cord
Lots of 12	.5	\$0.39
Lots of 25	1.2	.35
Lots of 100	4.8	.32

EXTENSION CORDS

20-FOOT LENGTHS

Extra flexible tinsel conductor, well insulated. Overall mercerized cotton braid. Can be used on auxiliary speaker or phono pick-up extension.

CAT. No. 1245

Put-up	Weight Per Lot	List Price Per Cord
Lots of 12—20-ft. length	2.2	\$0.71
Lots of 25—20-ft. length	4.5	.68
Lots of 100—20-ft. length	18.0	.63

RADIO BATTERY CABLE

Consists of two heavy conductors for "A" battery supply. All conductors color-coded. Durable brown cotton braid overall.

Cat. No.	Put-up	Std. Pkg. in lbs.	Wt. Ea.	List Price Each
1150	100-ft. spool, 5 conductor	3	5.0	\$7.02
1150A	500-ft. spool, 5 conductor	1	27.0	35.02
1151	100-ft. spool, 7 conductor	2	7.0	9.15
1151A	500-ft. spool, 7 conductor	1	37.0	45.65
1152	100-ft. spool, 9 conductor	1	10.0	11.40
1152A	500-ft. spool, 9 conductor	1	52.0	56.90

All prices subject to change without notice.

LENZ

WIRES Quality Products CABLES

TRANSMISSION LINE FOR ALL-WAVE DOUBLET ANTENNA SYSTEM

NOT SHIELDED



Excellent for short-wave reception. Conductors are of solid copper, insulated with a heavy coating of enamel, and weatherproof cotton braid, color coded.

Cat. No.	Put-up	Standard Package	Wt. Ea. in lbs.	List Price Each
1260	100-ft. spool	5	1	\$1.70
1261	500-ft. spool	1	5	7.65

SHIELDED



Ideal for short-wave reception. Conductors are of solid copper, insulated with a heavy coating of enamel over which is placed a weatherproof cotton braid, color coded. A closely woven bare copper shield is placed over all for grounding purposes.

Cat. No.	Put-up	Standard Package	Wt. Ea. in lbs.	List Price Each
1262	100-ft. spool	5	2.25	\$3.35
1263	500-ft. spool	1	11.25	15.80

EO 1 AMATEUR TRANSMISSION CABLE

SURGE IMPEDANCE 72 OHMS FOR AMATEUR TRANSMITTERS AND RECEIVERS. USED IN LENGTHS UP TO 1000 FEET WITH LOW LOSS

Cat. No.	Put-up	Standard Package	Weight Ea. in lbs.	List Price Each
2010	100' coil	1	6.7	\$10.63
2011	250' coil	1	16.7	26.58
2012	500' coil	1	33.5	53.17
2013	1000' coil	1	67.0	106.32

TWISTED PAIR BRAID OVERALL DOUBLET TRANSMISSION CABLE



BLACK weatherproof braid overall suitable as transmission line for DOUBLET ANTENNA SYSTEM required on "ALL WAVE" RADIO RECEIVERS.

Cat. No.	Put-up	Standard Package	Weight Ea. in lbs.	List Price Each
1264	100' spool	5	2.45	\$2.95
1265	500' spool	1	11.90	15.80

SHIELDED LOW CAPACITY CABLE



For auto antennae lead-in and short-wave converters. Extremely low capacity between conductor and shield permits shield grounding without excessive loss of signal.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1194	50-ft. coil $\frac{1}{8}$ " O.D.	3	4.0	\$5.87
1195	100-ft. spool $\frac{1}{8}$ " O.D.	1	10.0	12.30
1195B	500-ft. spool $\frac{1}{8}$ " O.D.	1	50.0	57.50
1196	50-ft. spool $\frac{1}{4}$ " O.D.	3	2.5	2.85
1197	100-ft. spool $\frac{1}{4}$ " O.D.	1	7.0	6.23
1197B	500-ft. spool $\frac{1}{4}$ " O.D.	1	37.0	27.13

Shielded Low Capacity Weatherproof Tubing

LOOM



$\frac{3}{8}$ " I.D. Shielded low capacity weatherproof tubing, approximately $\frac{1}{4}$ " O.D. Small outside diameter permits easy assembly in corner post of auto as shield for antennae lead-in. Excellent for shielding output of signal generators. Used by many prominent manufacturers of auto radio.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1203	50-ft. spool $\frac{3}{8}$ " I.D.	3	2.0	\$4.05
1204	100-ft. spool $\frac{3}{8}$ " I.D.	1	4.0	7.85
1296	500-ft. spool $\frac{3}{8}$ " I.D.	1	20.0	39.17

RUBBER JACKETED SHIELDED LOW CAPACITY CABLE

SINGLE CONDUCTOR



Outer rubber jacket insures **Positive Weatherproofing**. Excellent interference eliminator on broadcast band. Suggest ends be sealed after installation to prevent moisture absorption.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1400	50-ft. coil $\frac{3}{8}$ " O.D.	1	4.0	\$4.77
1400A	100-ft. spool $\frac{3}{8}$ " O.D.	1	8.0	9.35
1400B	500-ft. spool $\frac{3}{8}$ " O.D.	1	40.0	46.63
1405	50-ft. coil $\frac{1}{2}$ " O.D.	1	12.0	10.38
1405A	100-ft. spool $\frac{1}{2}$ " O.D.	1	22.0	21.73
1405B	500-ft. spool $\frac{1}{2}$ " O.D.	1	111.0	104.67

INDOOR AERIAL

EXTREMELY FLEXIBLE conductor, tightly woven brown cotton braid. Will not kink and can be easily concealed. Also suitable for loop aerials.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1089	20-ft. carton	20	.05	\$0.15
1090	60-ft. carton	5	.16	.38
1091	125-ft. carton	5	.30	.70
1092	1000-ft. spool	1	2.75	4.60

NEW!

SUPER-FLEXIBLE MICROPHONE CABLE



Cat. No.	Put-up	Weight Ea. in lbs.	List Price Each
1240	Put up in 100' spool; approx. O.D. $\frac{7}{32}$ "; standard package 3; wt. 3 lbs.		\$7.19
1240A	Put up in 250' spool; approx. O.D. $\frac{7}{32}$ "; standard package 1; wt. 6 $\frac{3}{4}$ lbs.		17.64
1240B	Put up in 500' spool; approx. O.D. $\frac{7}{32}$ "; standard package 1; wt. 13 $\frac{1}{2}$ lbs.		35.86

All prices subject to change without notice.

ALPHA-WIRE-PRODUCTS

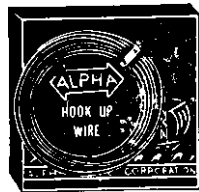
LACQUERED HOOK-UP AND LEAD-IN WIRE High Gloss Lacquered Braided

GENERAL PURPOSE: For point to point soldering connections on transformers, amplifiers, panel hook-up, etc., where a low loss dielectric is required. It is not a pushback wire but will strip easily.

CONSTRUCTION: Stranded tinned conductor, free stripping rubber, silk braid highly lacquered.

No.	Length Feet	Size	Tinned Strand	Rubber Thickness	Voltage Breakdown (60 Cycles)	D.C. Resistance Per Foot (Megohms)	O.D.	List Price
1511	25	Spool	20	10/30	1/64"	7000	.090"	\$0.30
1513	100	Spool	20	10/30	1/64"	7000	.090"	1.25
1515	500	Spool	20	10/30	1/64"	7000	.090"	5.65
1521	25	Spool	18	16/30	1/64"	7000	.110"	.45
1523	100	Spool	18	16/30	1/64"	7000	.110"	1.65
1525	500	Spool	18	16/30	1/64"	7000	.110"	7.50
1531	25	Spool	18	16/30	1/32"	8500	.135"	.45
1533	100	Spool	18	16/30	1/32"	8500	.135"	1.70
1535	500	Spool	18	16/30	1/32"	8500	.135"	8.00
1541	25	Spool	16	26/30	1/32"	8500	.150"	.55
1543	100	Spool	16	26/30	1/32"	8500	.150"	2.25
1545	500	Spool	16	26/30	1/32"	8500	.150"	10.25

Size #18 Stranded 1/32" Stock Colors: Black, Red, Green, Yellow, Blue, Brown, White. Other sizes Stock Colors: Black and Red.



"LACTIV" WIRE (Pushback)

GENERAL PURPOSE: Pushback hook-up wire in various colors for circuit identification.

CONSTRUCTION: Single conductor, solid or stranded tinned copper, served, .010" special rubber compound, colored cotton braid waxed.

No.	Length	Size	Strand	Voltage Breakdown (60 Cycles)	D.C. Resistance Per Foot (Megohms)	O.D.	List Price
1411	25 Ft.	Spool	22	2500	16	.080"	\$0.22
1413	100 Ft.	Spool	22	2500	16	.080"	.85
1415	1000 Ft.	Spool	22	2500	16	.080"	7.75
1421	25 Ft.	Spool	20	2100	15.5	.070"	1.00
1423	100 Ft.	Spool	20	2100	15.5	.070"	9.00
1425	1000 Ft.	Spool	20	2100	15.5	.070"	33
1431	25 Ft.	Spool	18	2450	16	.077"	1.15
1433	100 Ft.	Spool	18	2450	16	.077"	11.65
1435	1000 Ft.	Spool	18	2450	16	.077"	.40
1441	25 Ft.	Spool	16	2200	15	.105"	1.45
1443	100 Ft.	Spool	16	2200	15	.105"	14.30
1445	1000 Ft.	Spool	16	2200	15	.105"	.45
1451	25 Ft.	Spool	14	2150	14.8	.130"	1.95
1453	100 Ft.	Spool	14	2150	14.8	.130"	13.75
1455	1000 Ft.	Spool	14	2150	14.8	.130"	.25
1301	25 Ft.	Spool	22	2500	16	.070"	.95
1303	100 Ft.	Spool	22	2500	16	.070"	8.50
1305	1000 Ft.	Spool	22	2500	16	.070"	.30
1311	25 Ft.	Spool	20	2100	15.5	.070"	1.95
1313	100 Ft.	Spool	20	2100	15.5	.070"	9.75
1315	1000 Ft.	Spool	20	2100	15.5	.070"	.35
1321	25 Ft.	Spool	18	2100	16	.097"	1.25
1323	100 Ft.	Spool	18	2100	16	.097"	11.50
1325	1000 Ft.	Spool	18	2100	16	.097"	.45
1331	25 Ft.	Spool	16	2200	15	.105"	1.75
1333	100 Ft.	Spool	16	2200	15	.105"	16.25
1335	1000 Ft.	Spool	16	2200	15	.105"	.50
1341	25 Ft.	Spool	14	2150	14.8	.130"	2.20
1343	100 Ft.	Spool	14	2150	14.8	.130"	11.65
1345	1000 Ft.	Spool	14	2150	14.8	.130"	21.00

22-20-18—Stranded and Solid Stock Colors: Black, Red, Green, Yellow, Blue, Brown, White. 16-14—Stranded and Solid Colors: Black and Red.

SHIELDED LEAD-IN AND GROUND WIRE

GENERAL PURPOSE: Eliminates interference caused by motors, high tension wires, X-Ray machines or other apparatus that radiate electrical impulses. Can also be used for grid and plate leads.

CONSTRUCTION: Stranded tinned conductor, free strip rubber, braided tinned copper shield overall. Frequency: 3000 K.C.

No.	Length Feet	Size	Strand	Thickness Rubber	Maximum Capacity Per Foot	Surge Impedance (Ohms)	Power Factor Percent	O. D.	List Price
1201	250	Spool	14	41/30	84 mmf.	27.7	1.98	.189"	\$10.00
1205	50	Carton	14	41/30	84 mmf.	27.7	1.98	.190"	2.15
1211	250	Spool	16	26/30	86 mmf.	33.7	1.63	.150"	7.50
1215	50	Carton	16	26/30	86 mmf.	33.7	1.63	.150"	1.55
1221	500	Spool	18	16/30	97 mmf.	23.1	1.90	.115"	11.65
1225	500	Spool	20	10/30	92 mmf.	29.3	2.10	.107"	9.40

LACQUERED PRIMARY WIRE

GENERAL PURPOSE: For automobile head, tail, side, dashboard lamps, horn, spotlight, instrument leads and general primary voltage applications.

CONSTRUCTION: Stranded soft annealed tinned copper, insulated with rubber, over which is a highly lacquered braid. Oil, heat, and moisture-resistant.

No.	Spool	Size	Strand	Rubber	O.D.	List	No.	Spool	Size	Strand	Rubber	O.D.	List
1983	100'	18	19/23	1/32"	.208"	\$6.25	1995	100'	16	26/30	1/32"	.155"	\$2.15
1989	100'	10	16/30	1/64"	.110"	1.50	1996	500'	16	26/30	1/32"	.155"	9.75
1990	500'	18	16/30	1/64"	.110"	7.25	1997	100'	14	41/30	1/32"	.170"	2.50
1991	100'	18	16/30	1/32"	.117"	1.65	1998	500'	14	41/30	1/32"	.170"	11.50
1992	500'	18	16/30	1/32"	.117"	7.50	1999	100'	12	19/25	1/32"	.190"	3.75

BRAIDED SHIELDING

GENERAL PURPOSE: For shielding speaker leads, lead-ins, amplifier wires, auto radio installations. Also for bonding.

CONSTRUCTION: Composed of very fine soft annealed copper wire braided and rolled flat.

BARE COPPER				TINNED COPPER			
No.	Spool	I.D.	List	No.	Spool	I.D.	List
1226	50 Ft.	1/4"	\$1.65	1230	50 Ft.	3/16"	\$1.50
1227	50 Ft.	3/8"	1.90	1231	50 Ft.	1/4"	1.90
1228	50 Ft.	5/8"	3.90	1232	50 Ft.	3/8"	2.25
				1232D	250 Ft.	3/8"	10.00
				1233	50 Ft.	5/8"	4.00

"SUPER HI-TENSION" KINKLESS TEST LEAD WIRE

GENERAL PURPOSE: As test leads in analyzers, oscillators, etc.

CONSTRUCTION: #20-41/36 tinned soft annealed copper, concentric strand, cotton wrap, 3/64" "Super Hi-Tension" rubber, satin finish.

No.	Spool	Voltage Feet (60 Cycles)	D.C. Resistance Per Foot (Megohms)	O.D.	List Price
1633	100	10,000 V.	710	.140"	\$1.70
1635	500	10,000 V.	710	.140"	8.00

STOCK COLORS: RED and BLACK

Heavy Duty Type

GENERAL PURPOSE: For television therapeutic equipment, analyzers, oscillators, etc. or wherever a heavy duty high voltage line is required.

CONSTRUCTION: #18-66/36 tinned soft annealed copper wire, concentric strand, cotton wrap, heavy "Super Hi-Tension" rubber, satin finish.

No.	Spool	Voltage Feet	Over	O.D.	List
1637	100	22,000 V.	1,000	.248"	\$5.00
1638	500	22,000 V.	1,000	.248"	22.50

STOCK COLORS: RED and BLACK

AUTO RADIO SHIELDED LEAD-IN

GENERAL PURPOSE: As an antenna lead-in to reduce interference of ignition pick-up.

CONSTRUCTION: Single conductor, stranded tinned copper, insulated with rubber, jute filters, close tinned copper shield overall.

No.	Spool	Max. Capacity Per Ft.	O.D.	List
1239	100'	27.6 mmf.	.250"	\$7.50
1240	100'	9.7 mmf.	.500"	11.25

SHIELDED LOW LOSS CABLE

GENERAL PURPOSE: For auto radios, lead-ins, phonograph pick-ups, short wave receivers and for grid leads in the input stages of PA amplifiers.

CONSTRUCTION: Single conductor #20-10/30 stranded tinned copper, insulated with low loss rubber compound white silk braid, tinned copper shield overall.

No.	Spool	Capacity Per Foot	O.D.	List
1241	100 Ft.	22.6 mmf.	.225"	\$4.90

7 MM SHIELDED IGNITION CABLE

GENERAL PURPOSE: For automotive and aircraft ignition systems requiring grounding to overcome interference.

CONSTRUCTION: Single conductor #16-19/20 stranded tinned copper, rubber insulated, cotton braid highly lacquered, braided tinned copper shield overall.

No.	Spool	O.D.	List
1193	100 Ft.	.300"	\$8.00

SHIELDED LOOM

GENERAL PURPOSE: For shielding auto antennas lead-ins. Shields the output of signal generators.

CONSTRUCTION: Made of heavy braided loom, weatherproofed and covered with a closely woven tinned copper shield.

No.	Spool	I.D.	List
1236	50 Ft.	3/8"	\$6.25
1237	50 Ft.	5/16"	5.00
1238	50 Ft.	3/16"	3.65

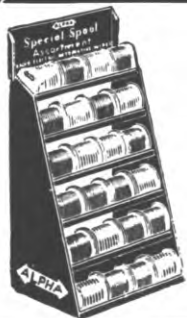
7 MM LACQUERED IGNITION WIRE

GENERAL PURPOSE: For automotive ignition systems.

CONSTRUCTION: Single conductor #16-19/20 stranded tinned copper, rubber insulated, cotton braid highly lacquered.

No.	Spool	O.D.	List
1981	100 Ft.	.275"	\$4.40

ALPHA-WIRE-PRODUCTS



ALPHA SPECIAL SPOOL ASSORTMENT
On Attractive Metal Spools
... Including ...

PUSHBACK HOOK-UP

RUBBER COVERED AUTOMOTIVE PRIMARY SHIELDED LEAD-IN FIXTURE LAMP WIRE

LIST 63c EACH

Catalog No.	Description	Approximate Quantity per Spool
9801	#22 Solid Pushback Wire-Assorted Colors	85 Ft.
9802	#20 Solid Pushback Wire-Assorted Colors	70 Ft.
9804	#18 Solid Pushback Wire-Assorted Colors	60 Ft.
9805	#16 Solid Pushback Wire-Assorted Colors	40 Ft.
9806	#14 Solid Pushback Wire-Assorted Colors	35 Ft.
9811	#22 Stranded Pushback Wire-Assorted Colors	70 Ft.
9812	#20 Stranded Pushback Wire-Assorted Colors	60 Ft.
9814	#18 Stranded Pushback Wire-Assorted Colors	50 Ft.
9815	#16 Stranded Pushback Wire-Assorted Colors	35 Ft.
9816	#14 Stranded Pushback Wire-Assorted Colors	25 Ft.
9820	#20 Stranded 1/32" R. C. Wire-Black	100 Ft.
9822	#18 Stranded 1/32" R. C. Wire-Black	75 Ft.
9824	#16 Stranded 1/32" R. C. Wire-Black	45 Ft.
9827	#14 Stranded 3/64" R. C. Wire-Black	35 Ft.
9828	#18 Solid 3/64" R. C. Lead-In Wire-Black	70 Ft.
9829	#20 Solid 3/64" R. C. Lead-In Wire-Black	100 Ft.
9830	#18 Stranded 1/32" R. C. Laquered Braid-Assorted Colors	40 Ft.
9834	#20 Stranded 1/64" R. C. Shielded Lead-In	35 Ft.
9837	"Super Hi-Tension" Test Prod Colored Rubber Wire-Black and Red	35 Ft.
9838	Heavy Duty "Super Hi-Tension" Test Prod Colored Rubber Wire-Black and Red	12 Ft.
9840	A.C.-D.C. Indoor Aerial Wire	100 Ft.
9848	#18 E-Z Strip All Rubber Parallel Lamp Cord-Approved-Assorted Colors	25 Ft.
9870	#18 Plain Tinned Copper	100 Ft.
9875	#18 Annunciator (Bell) Wire	100 Ft.

MAGNET WIRE

Plain Enameled

Size B & S	38¢ Special Footage Spool	List Price	1/2 Lb. Spool	List Price	1/2 Lb. Spool	List Price
14	27	\$0.38	19	\$0.28	39	\$0.53
16	45	.38	30	.30	60	.53
18	60	.38	50	.30	100	.53
20	95	.38	80	.33	160	.53
22	150	.38	125	.35	250	.55
24	220	.38	200	.35	400	.60
26	310	.38	315	.43	635	.63
28	460	.38	505	.45	1010	.75
30	610	.38	805	.48	1610	.83
32	820	.38	1275	.53	2550	.90
34	1220	.38	2030	.63	4060	1.00
36	1620	.38	3220	.73	6440	1.20
38	2000	.38	5120	.90	10240	1.43
40	2500	.38	8140	1.38	16280	2.10

Double Cotton Covered

Size B & S	38¢ Special Footage Spool	List Price	1/2 Lb. Spool	List Price	1/2 Lb. Spool	List Price
14	27	\$0.38	19	\$0.33	39	\$0.58
16	45	.38	30	.35	60	.58
18	60	.38	50	.35	95	.63
20	95	.38	75	.40	150	.68
22	150	.38	115	.45	235	.78
24	220	.38	180	.48	360	.93
26	310	.38	280	.60	560	1.10
28	460	.38	430	.70	860	1.33
30	610	.38	645	.85	1290	1.58
32	820	.38	965	1.03	1930	1.95
34	1220	.38	1350	1.45	2700	2.80
36	1620	.38	1675	2.04	3350	3.85

Double Silk Covered

Size B & S	38¢ Special Footage Spool	List Price	1/2 Lb. Spool	List Price	1/2 Lb. Spool	List Price
18	32	\$0.38	50	\$0.55	100	\$1.05
20	44	.38	80	.65	160	1.25
22	62	.38	125	.73	250	1.43
24	87	.38	195	.85	395	1.65
26	105	.38	310	1.04	620	2.00
28	125	.38	490	1.15	980	2.25
30	145	.38	765	1.30	1530	2.50
32	170	.38	1190	1.75	2380	3.40
34	200	.38	1785	2.25	3570	4.40
36	230	.38	2685	3.50	5370	6.75

FLEXIBLE VARNISHED TUBING

RADIO TUBING—(Spaghetti). A sleeving with a heavy coat of varnish, in high gloss vivid colors. Average dielectric strength: 5,000 volts.

SATURATED SLEEVING—A fibre yarn sleeving saturated with high grade insulating varnish. Cuts clean and has a smooth interior wall. Average dielectric strength: 1,200 volts.

MAGNETO TUBING—The production of this type of tubing is under rigid control so as to insure a maximum in quality. It is thoroughly impregnated with a varnish of maximum insulating value. It is resistant to heat, oil, gas and acids. Colors are bright and vivid. Average dielectric strength: 7,000 volts.

Note: Sizes follow the B & S System of gauging wires. For instance, a #10 tubing will fit over a #10 bare wire or any wire with an insulation of which the O.D. is equivalent to #10 B & S gauge. If in doubt, it is best to submit a sample of the wire or product to be covered.

List Prices Per 100 Feet				List Prices Per 100 Feet					
No.	App. I.D.	Radio Tubing	Sat. Steeving	Magneto Tubing	No.	App. I.D.	Radio Tubing	Sat. Steeving	Magneto Tubing
20	.034	\$4.15	\$2.75	\$6.25	8	.133	\$6.25	\$4.50	\$9.40
19	.038	4.15	2.75	6.25	7	.148	6.90	4.75	10.00
18	.042	4.15	2.75	6.25	6	.166	7.65	5.15	10.75
17	.047	4.15	2.75	6.25	5	.186	8.25	5.65	11.50
16	.053	4.25	2.90	6.50	4	.208	9.00	6.15	12.25
15	.059	4.25	2.90	6.75	3	.234	9.75	6.65	13.00
*14	.066	4.70	3.25	7.00	2	.263	10.80	7.15	14.50
*13	.076	4.75	3.40	7.15	1	.294	10.75	7.65	16.25
*12	.085	4.90	3.50	7.25	0	.330	12.25	8.25	18.75
11	.095	5.15	3.65	8.00	3/8	.375	14.75	8.90	21.25
10	.106	5.25	3.75	8.50	7/16	.438	17.25	9.50	23.75
9	.118	5.65	4.25	9.00	1/2	.500	19.75	10.15	26.25
					5/8	.625	22.25	10.75	31.25

Tolerances: Sizes 0 to 2—plus or minus .005"
3 to 13—plus or minus .004"
14 to 20—plus or minus .002"

Lengths—Standard 36"
"30"

AC-DC ANTENNA WIRE

GENERAL PURPOSE: Ideal replacement wire for universal midgets, indoor aerials and loop antennae.

CONSTRUCTION: Single conductor #23-20/36 stranded bare copper, extra flexible, covered with a dark brown cotton braid overall.

Number	Length	Put-Up	List
1281	25 Ft.	Disc	\$0.18
1282	100 Ft.	Spool	.45
1283	500 Ft.	Spool	2.75
1284	1000 Ft.	Spool	5.25

AC-DC RESISTANCE LINE CORDS

These line cords are built with a third element voltage drop resistor to take care of reducing line voltage and also increase life of coils and condensers as well as eliminate heat generated by the receiver. Equipped with a soft rubber unbreakable attachment plug.

INDIVIDUALLY BOXED FOR SETS WITH FOLLOWING TUBES

No.	Ohms	For Tubes
1174	135	4-6.3 Volt Tubes, 1-43, 1-25Z5
1175	160	3-6.3 Volt Tubes, 1-43, 1-25Z5
1175B	180	4-6.3 Volt Tubes, 1-43, 1-12Z3
		2-6.3 Volt Tubes, 1-43, 1-25Z5
		3-6.3 Volt Tubes, 1-43, 1-12Z3
1176	223	2-6.3 Volt Tubes, 1-43, 1-12Z3
1176B	250	3-6.3 Volt Tubes, 1-25Z5
		3-6.3 Volt Tubes, 1-12Z3
1177	290	3-6.3 Volt Tubes, 1-12Z3
1178	330	4-6.3 Volt Tubes
		2-6.3 Volt Tubes, 1-12Z3
1179	360	1-6.3 Volt Tube, 1-12Z3
		3-6.3 Volt Tubes

List Price, each... \$0.60

HEAVY DUTY RUBBER EXTENSION CORD SET

Best for extending power lines of motors, refrigerators, washing machines, electric drills, vacuum cleaners, etc. Construction 18-2 Sd service cord, rubber connector one end, other end rubber plug.

Number	Length	Extension Crrd	List
4139	9 Ft.	Extension Crrd	\$0.90
4142	12 Ft.	Extension Crrd	.93

E-Z STRIP POWER CORDS

Ideal power supply cord for replacement on radios, lamps, fans, etc. Made of E-Z strip all rubber parallel cord (UNDERWRITERS APPROVAL).

AL) with a small unbreakable soft rubber attachment plug. Free end stripped and tinned ready to attach.

INDIVIDUALLY BOXED

No.	Lgth.	List No.	Lgth.	List No.	Lgth.	List		
2106	6'	\$0.23	2109	9'	\$0.28	2112	12'	\$0.35

GUY WIRE

GENERAL PURPOSE: Extensively used on transmitter and receiver poles and towers.

CONSTRUCTION: Galvanized steel wire having extremely high tension strength.

Number	Length	List
2195	25 Ft. Coil	\$0.25
2196	50 Ft. Coil	.50

CUBE TAP EXTENSION CORD

Constructed of ALPHA E-Z Strip rubber cord. A three outlet Bakelite tap is at one end and an unbreakable rubber attachment plug on the other end. (UNDERWRITERS APPROVAL.)

INDIVIDUALLY BOXED

No.	Lgth.	List	No.	Lgth.	List	No.	Lgth.	List
4106	6'	\$0.40	4110	10'	\$0.48	4115	15'	\$0.60
4109	9'	.45	4112	12'	.55	4120	20'	.70

ANNUNCIATOR (BELL) WIRE

Pure copper, two cotton serves reversed and heavy paraffin impregnation are the components used in our wire. Supplied in assorted colors.



Single		
No.	Length	List
1970	25 Ft. Carton	\$0.15
1971	1/4 Lb. Carton	.22
1972	1/2 Lb. Carton	.40
1974	7 1/2 Lb. Spool	5.25

Twisted Pair

1375	7 Lb. Spool	5.60
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SPAGHETTI TUBING

Tapes up to a No. 14 wire. Black, Yellow, Red, Green and Brown.

No. 2091—30" Lengths.....Each \$0.09 1/2

ALPHA-WIRE-PRODUCTS

SHIELDED DUPLEX SPEAKER CABLE

GENERAL PURPOSE: For PA systems, photo-electric cell circuits, master control sound systems, etc.

CONSTRUCTION: Two conductors twisted, each #18-16/30 stranded tinned copper, 1/32" "Hi-Tension" rubber, color coded, paper wrap over both conductors, close tinned copper shield overall.



No.	Ft. per Spool	Conductors	Maximum Capacity per Ft.			List Price
			Cond. to Shield	Bet. Cond.	O. D.	
1265	500	2	65 mmf.	23 mmf.	.250"	\$27.50

ARMORED DUPLEX SPEAKER CABLE Varnished Cambric Type

GENERAL PURPOSE: For PA systems, oil burner installations, automotive wiring, etc.

CONSTRUCTION: Two conductors parallel, each #18-16/30 stranded tinned copper, varnished cambric wrapped, color coded waxed cotton braid, galvanized steel armor overall.



Number	Spool	O. D.	List Price
1272	500 Ft.	132" x 182"	\$21.40

Rubber Insulated Type

GENERAL PURPOSE: Loud speaker wiring in master control sound systems.

CONSTRUCTION: Two conductors parallel, each #18-16/30 stranded tinned copper, color coded cotton serve, 1/64" 40% rubber, paper wrap over both conductors, galvanized steel armor overall.



Number	Spool	O. D.	List Price
1273	500 Ft.	190" x .245"	\$21.40

COMMUNICATION SYSTEM CABLE

GENERAL PURPOSE: For interior use designed for connecting inter-communication systems, annunciators, telephones, etc.

CONSTRUCTION: Each conductor solid tinned copper wire, two cotton reverse serves paraffined, color coded, conductors twisted into pairs, then covered with an impregnated double paper wrap, and overall a cotton braid saturated with a moisture-proof, slow-burning, rodent-proof compound.



Number	Spool	Size	No. of Pairs	O. D.	List
1276	100 Ft.	22	6 (12 Conductors)	.310"	\$10.00
1277	100 Ft.	22	10 (20 Conductors)	.375"	16.25

SHIELDED MULTIPLE CONDUCTOR CABLE

GENERAL PURPOSE: For indoor permanent or portable P.A. systems, photo electric cell circuits, sound recording and auto radios.

CONSTRUCTION: Each conductor #20-10/30 stranded tinned copper, 1/64" rubber, color coded cotton braid, conductors twisted, tinned copper shield overall. #1262, #1263, #1264 same specifications except with glazed brown cotton braid over shield.



TINNED SHIELD OVERALL

No.	Ft. per Spool	Conductors	Maximum Capacity per Ft.			List Price
			Cond. to Shield	Bet. Cond.	O. D.	
1256	100	2	60.5 mmf.	32 mmf.	.215"	\$4.65
1257	100	3	54.0 mmf.	29 mmf.	.240"	5.75
1258	100	4	48.0 mmf.	26 mmf.	.270"	7.15

COTTON BRAID OVER SHIELD

1262	100	2	60.5 mmf.	32 mmf.	.225"	\$5.25
1263	100	3	54.0 mmf.	29 mmf.	.245"	8.00
1264	100	4	48.0 mmf.	26 mmf.	.275"	9.40

SHIELDED TRANSMISSION LINE

GENERAL PURPOSE: For inter-communication, short wave, PA systems, etc.

CONSTRUCTION: Two conductors twisted, each #19 solid copper, heavy enamel coated, cotton serve, cotton braid waxed, color coded, bare copper shield overall.



No.	Spool	Maximum Capacity Per Foot	Frequency (KC)	Surge Impedance (Ohms)	Power Factor (Percent)	O. D.	List Price

Surge impedance is one-half the above when using shield as common conductor in dual transmission line.

UNSHIELDED TRANSMISSION LINE



GENERAL PURPOSE: For short wave, inter-communication, annunciator systems, etc. where shielding is not required.

CONSTRUCTION: Two conductors twisted, each #19 solid copper, heavy enamel coated, cotton serve, cotton braid waxed, color coded, conductors twisted.

No.	Spool	O. D.	List
1269	500 Ft.	.135"	\$7.50

LEAD SHEATHED CABLE



GENERAL PURPOSE: For PA systems, communication, traffic control, mines, railroads and many other uses where severe moisture conditions are encountered.

CONSTRUCTION: Two conductors twisted, each #19 solid tinned copper, 1/32" "Hi-Tension" rubber, coded, overall is a pure lead sheath.

No.	Length	O. D.	List
1270	100 Ft. Spool	.325"	\$11.25
1271	1000 Ft. Reel	.325"	\$100.00

SPEAKER AND BATTERY CABLE

GENERAL PURPOSE: For connecting speakers, analyzers, remote control units, P.A. systems or wherever a multiple 500 ohm circuit hook-up is required.



CONSTRUCTION: Each conductor #20-10/30 stranded tinned copper, 1/64" rubber, color coded cotton braid, conductors twisted, glazed brown cotton braid overall.

Number	Spool	Conductors	Capacity Between Conductors	O. D.	List Price
1182	100 Ft.	2	31.5 mmf.	.200"	\$3.00
1183	100 Ft.	3	31.0 mmf.	.205"	3.50
1184	100 Ft.	4	30.0 mmf.	.260"	5.00
1185	100 Ft.	5	29.5 mmf.	.300"	6.00
1186	100 Ft.	6	29.2 mmf.	.320"	7.25
1187	100 Ft.	7	28.8 mmf.	.340"	8.25
1188	100 Ft.	8	28.5 mmf.	.370"	9.50
1189	100 Ft.	9	27.9 mmf.	.400"	11.50
1190	100 Ft.	10	27.6 mmf.	.410"	13.15
1192	100 Ft.	12	27.0 mmf.	.430"	15.00

INTER-COMMUNICATION CABLE Braided Type

GENERAL PURPOSE: Designed for interior use for connecting inter-communication systems, annunciators, thermostat controls of oil burners, air conditioners, etc.



CONSTRUCTION: Each conductor solid bare copper wire, two cotton reverse serves paraffined, color coded, conductors twisted then an overall cotton braid waxed.

Number	Spool	Size	No. of Conductors	O. D.	List
1274	500 Ft.	18	2	.150"	\$10.65
1275	500 Ft.	18	3	.175"	12.50

Armored Type

GENERAL PURPOSE: Same as braided type but armored for heavy duty and grounding.



CONSTRUCTION: Same specifications as braided type except galvanized steel armor overall.

Number	Spool	Size	No. of Conductors	O. D.	List
1278 2	500 Ft.	18	2	.150"	\$23.00
1278 3	500 Ft.	18	3	.175"	27.75
1278 4	500 Ft.	18	4	.185"	32.90

CRYSTAL MICROPHONE CABLE

GENERAL PURPOSE: Low loss design for use with crystal, ribbon, dynamic and velocity microphones, photo-electric cells. Use #1248 for lapel microphones and phonograph pick-ups.



CONSTRUCTION: Single conductor, extra flexible stranded tinned copper, cotton serve, insulated with special low loss SIC rubber compound, braided tinned copper shield, cotton serve, tough black rubber jacket overall.

No.	Spool	Size	Strand	Max. Capacity per Ft. Between Cond. and Shield	O. D.	List Price
1248	100 Ft.	20	26, 34	45 mmf.	.175"	\$4.65
1249	100 Ft.	20	26, 34	36 mmf.	.255"	5.65

SHIELDED MICROPHONE CABLE

GENERAL PURPOSE: Adaptable for all indoor and outdoor crystal, carbon and condenser microphones as well as public address systems.



CONSTRUCTION: Each conductor #20-26/34 stranded tinned copper, cotton wrap, 1/64" "Hi-Tension" low capacity rubber, color coded, conductors twisted, cushioned with cotton fillers, braided tinned copper shield, cotton wrap, tough black rubber jacket overall.

Number	Spool	Number of Conductors	Max. Capacity per Ft. Between		O. D.	List Price
			Cond. & Shield	Conds.		
1250	100 Ft.	2	70 mmf.	38 mmf.	.270"	\$7.15
1251	100 Ft.	3	65 mmf.	38 mmf.	.280"	8.00
1252	100 Ft.	4	65 mmf.	36 mmf.	.300"	9.40
1253	100 Ft.	5	60 mmf.	32 mmf.	.315"	11.75
1254	100 Ft.	6	60 mmf.	30 mmf.	.330"	13.75

UNSHIELDED MICROPHONE CABLE

GENERAL PURPOSE: For indoor and outdoor speakers, permanent or portable P.A. systems, sound recording and auto radios.



CONSTRUCTION: Each conductor #20-26/34 stranded tinned copper, cotton wrap, 1/32" "Hi-Tension" rubber, color coded, conductors twisted, cushioned with cotton fillers, cotton wrap, tough black rubber jacket overall.

Number	Spool	Number of Conductors	Capacity per Ft. Between Conductors	O. D.	List Price
1244	100 Ft.	2	22 mmf.	.250"	\$4.15
1245	100 Ft.	3	20 mmf.	.300"	5.25
1246	100 Ft.	4	18 mmf.	.315"	6.25
1247	100 Ft.	5	17 mmf.	.330"	8.40

ALPHA-WIRE-PRODUCTS

GENUINE EO1 TRANSMISSION CABLE



GENERAL PURPOSE: Standard feeder system for transmitter, frequency modulation, television, short wave, police, aircraft receivers, etc.
CONSTRUCTION: Two conductors #12 solid bare soft annealed copper, paper separator, insulated to .175" low loss moisture resisting rubber compound, twisted, soft cotton braid overall, saturated pitch and mica finish.

No.	Length Feet	Capacity Between Condensers Per Foot	Frequency (K.C.)	Surge Impedance (Ohms)	Power Factor	D. B. Loss Per 100 Feet	List Price
1153	100 Spool	23 mmf.	3,500	72	1	.36	\$10.00
1154	250 Reel	23 mmf.	3,500	72	1	.36	23.75
1155	500 Reel	23 mmf.	3,500	72	1	.36	47.50
1156	1000 Reel	23 mmf.	3,500	72	1	.36	95.00

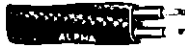
LO-Q CABLE (ULTRA HI-FREQUENCY)



GENERAL PURPOSE: An extremely low loss cable as feeder system for frequency modulation (F.M.) and television.
CONSTRUCTION: 2 conductors #11 solid tinned copper, 1/32" moisture-resisting rubber, both conductors twisted under 3/64" 60% rubber jacket, cotton braid saturated with black flame-resisting finish overall.

No.	Ft. per Spool	Capacity Bet. Conds Per Foot	Frequency (K.C.)	Surge Impedance (Ohms)	Power Factor	D. B. Loss Per 100 Ft.	Instantaneous Puncture Voltage	Maximum Load Cap. (Watts)	List Price
1152	100	17 mmf.	1,000	100	.03	.04 at 1000 K.C.	35,000 V.	500	\$18.25

TRANSMITTING LINE CABLE



GENERAL PURPOSE: Standard feeder system for transmitter, short wave, etc.

CONSTRUCTION: 2 conductors twisted #12 solid bare copper, paper serve, 3/64" code rubber, overall soft cotton braid, weatherproofed.

No.	Ft. per Spool	Maximum Capacity Per Foot	Frequency (K.C.)	Surge Impedance (Ohms)	Power Factor	D. B. Loss Per 100 Feet	List Price
1157	100	28.5	3,500	72	2.34	.725	\$5.65

SHIELDED PRIMARY HOOK-UP WIRE



GENERAL PURPOSE: To reduce interference caused by motors, high tension wire, X-Ray machines or other apparatus that radiates electrical impulses.

CONSTRUCTION: Stranded tinned copper, free strip rubber, highly lacquered braid, close tinned copper shield overall.

No.	Ft. per Spool	Size	Strand	Rubber Thickness	O.D.	List Price
1194	100	20	10/30	1/64"	.123"	\$2.75
1196	100	18	16/30	1/32"	.157"	3.25
1197	100	16	26/30	1/32"	.172"	3.65

RUBBER SHEATHED SERVICE CORD

(UNDERWRITERS APPROVED)



GENERAL PURPOSE: For use on vacuum cleaners, electric tools, washing machines, refrigerators, appliances, trouble lights, garage lamps or wherever a rough power line is required.

CONSTRUCTION: Each conductor stranded bare copper, cotton separator, 1/32" "Hi-Tension" rubber, color coded, conductors twisted, cushioned with jute fillers, 40% tough rubber jacket overall.

No.	Length Feet	Size	Conductors	Type	Current Carrying Capacity	Voltage Rating	O.D.	List Price
1951	250 Spool	18	2	SV	5 amps	300	.250"	\$10.00
1952	250 Spool	18	2	SJ	5 amps	300	.310"	11.30
1953	250 Spool	18	2	SJ	7 amps	300	.340"	15.00
1954	250 Coil	18	2	S	5 amps	600	.300"	22.50
1955	250 Coil	16	2	S	7 amps	600	.410"	26.50
1956	250 Coil	14	2	S	15 amps	600	.540"	51.00

FILAMENT AND HOOK-UP WIRE



GENERAL PURPOSE: Point to point wiring for all radio and electrical uses.

CONSTRUCTION: Single conductor #14-11 30 stranded tinned copper, served, rubber insulation and braid overall, wax impregnated.

No.	Length—Feet	Voltage Breakdown (60 Cycles)	D.C. Resistance Per Foot (Megohms)	O.D.	List Price
1641	25 Spool	2150	14.8	.130"	\$0.60
1645	500 Spool	2150	14.8	.130"	10.65

SUPER "HI-TENSION" TEST LEADS



Can readily be connected for testing circuit defects and all devices such as meters, batteries, transformers, etc. An insulation of Alpha "Super Hi-Tension" heavy rubber is over an extremely flexible tinned copper wire (Alpha #1635 Test Prod Wire). Constructed to withstand rough usage and repeated bendings. Handles are of sturdy fibre. Overall length 50". Red and Black leads for easy identification.

INDIVIDUALLY BOXED

No.	Description	List Price
2171	Needle Point Prods with Spade Terminals	\$0.60
2172	Needle Point Prods with Phone Tip Terminals	.60
2173	Needle Point Prods with Alligator Clips	.75
2175	Solderless Prods with Spade Terminals	.60
2176	Solderless Prods with Phone Tip Terminals	.60
2177	Solderless Prods with Alligator Clips	.75

TYPE POSJ

E-Z STRIP LAMP CORD (UNDERWRITERS APPROVED)



GENERAL PURPOSE: For line cord on radios, lamps, electric clocks, food mixers and other small devices.

CONSTRUCTION: Two conductors parallel, each conductor #18-12/34 extra flexible bare copper, color coded cotton serve, 40% tough rubber jacket overall. Slit in jacket to permit "E-Z" separation.

No.	Spool	O.D.	List Price
1966	100 Ft.	.235" x .130"	\$2.50
1967	250 Ft.	.235" x .130"	5.00

FLEXIBLE LAMP CORD AND FIXTURE WIRE



For use on lamps, radio AC or DC lines, ground, aerial connections, etc.

No.	Ft. per Spool	Size	Type	List Price
1930	1000	18 1/64"	Single Conductor	\$8.25
1931	500	18 1/64"	Single Conductor	4.25
1935	500	18 1/64"	Twisted Pair	9.40
1937	250	18 1/32"	Twisted Pair (Approved)	6.50
1940	1000	20 1/64"	Single Conductor	7.75
1941	1000	20 1/64"	Single Conductor	4.00

TELEPHONE WIRE—INSIDE



GENERAL PURPOSE: For interior use in dry locations. Designed for connecting inter-communication systems, annunciators, interior telephones, etc. Also used for ground and aerial connections.

CONSTRUCTION: Each conductor solid tinned copper, 1/64" telephone compound rubber, hard glazed cotton braid color coded, conductors twisted.

No.	Coil	Size	Conductors	O.D.	List Price
1279	500 Ft.	19	2	.250"	\$15.00
1280	500 Ft.	19	3	.375"	\$22.50



DIAL CABLE

Phosphor Bronze

CONSTRUCTION: Made of 42 strands genuine phosphor bronze wire with a linen center for extra flexibility. Is guaranteed not to warp or stretch.

No.	Ft. per Spool	Tensile Strength	List Price
1689	25	50 lbs.	\$1.05
1690	50	50 lbs.	2.05
1691	100	50 lbs.	3.65
1692	500	50 lbs.	16.90

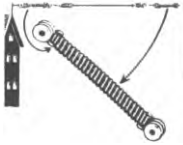
Braided Linen

CONSTRUCTION: Made of the finest linen obtainable. Composed of a very strong linen center over which is a black braid.

No.	Ft. per Spool	Tensile Strength	List Price
1694	25	40 lbs.	\$1.40
1695	100	40 lbs.	4.75
1696	500	40 lbs.	19.50
1697	25	22.5 lbs.	1.25
1698	100	22.5 lbs.	4.40
1699	500	22.5 lbs.	16.90
1700	25	18 lbs.	.70

ALPHA - WIRE - PRODUCTS

SPRING AERIAL ADJUSTER



Prevents sagging and swaying. Powerful springs, cadmium plated and corrosion proof.

List Price
No. 1285 Individually Boxed \$0.45

RADIO LIGHTNING ARRESTER



Made of high quality glazed porcelain with nickeled screws and nuts. For indoor or outdoor use.

Furnished with two wood screws.

List Price
No. 2001 Individually Boxed \$0.19

DOUBLET LIGHTNING ARRESTER



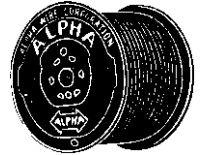
Made of high quality glazed porcelain with nickeled screws and nuts.

For complete protection on doublet antenna systems. For indoor or outdoor use. Furnished with two wood screws.

List Price
No. 2000 Individually Boxed \$0.30

LEAD-IN AND GROUND WIRE

GENERAL PURPOSE: Lead-in, ground, hook-up, all purpose wire.
CONSTRUCTION: Stranded tinned or solid tinned copper conductor, insulated with live free stripping rubber, jet black waxed finish overall.



No.	Length Feet	Put-Up	Size	Tinned Strand	Rubber Thickness	O. D.	List Price
1114	1000	Spool	20	10/30	1/32"	.105"	\$5.25
1114E	500	Spool	20	10/30	1/32"	.105"	2.75
1115	500	Spool	14	41/30	3/64"	.175"	7.00
1117	100	Spool	14	41/30	3/64"	.175"	1.50
1118	50	Carton	14	41/30	3/64"	.175"	.75
1121	500	Spool	16	26/30	1/32"	.130"	4.75
1124	100	Spool	16	26/30	1/32"	.130"	1.05
1125	50	Carton	16	26/30	1/32"	.130"	.60
1130	100	Spool	18	16/30	1/32"	.125"	.80
1131	500	Spool	18	16/30	1/32"	.125"	3.70
1132	50	Carton	18	16/30	1/32"	.125"	.40
1133	25	Carton	18	16/30	1/32"	.125"	.24
1134	1000	Spool	18	16/30	1/64"	.110"	6.50
1101	500	Spool	16	Solid	3/64"	.135"	4.25
1105	50	Carton	16	Solid	3/64"	.135"	.45
1111	500	Spool	18	Solid	3/61"	.133"	3.50
1112	50	Carton	18	Solid	2/64"	.133"	.40
1113	1000	Spool	20	Solid	3/64"	.130"	5.50

BATTERY AND TEST CLIPS

For protection against rust and corrosion, these clips are completely cadmium plated. Strong spring jaw for permanent contact.



No.	Type	Amps.	Per Box	List Price
2071	Midgt	5	50	\$6.25
2072	Pee-Wee	10	50	6.25
2073	Medium	25	50	9.00
2074	Large	50	30	15.00

ALLIGATOR CLIP

These clips are nickel plated as protection against rust and corrosion. Strong spring jaw for firm contact.



Number	Per Box	List Price
2075	50	\$6.25

UNBREAKABLE SOFT RUBBER PLUG

Made of sturdy live soft rubber. Brass blades. Unbreakable, easy to attach.



No.	Per Carton	List Price
1964	100	\$8.00

BUS-BAR WIRE

This copper wire is tinned and receives several wipings to insure cleanliness and brightness. Is cut in uniform 2 ft. lengths.



Number	Size	List Price
2078	10 Round	\$5.00
2080	12 Round	3.40
2081	14 Square	2.90
2082	14 Round	2.50

GLASS INSULATORS



Crystal clear, of great tensile strength, moistureproof, waterproof and weatherproof.

Number	Length	Per Carton	List Price
2020	3"	100	\$5.00
2021	3 1/4"	100	7.50

PORCELAIN INSULATOR



Made of glazed porcelain. Will withstand great strain.

Number	Per Carton	List Price
2022	100	\$3.75

SCREW EYES



A cadmium plated sharply pointed #6 gauge screw with glazed porcelain eye.

Number	Length	Per Carton	List Price
2052	3"	100	\$4.15
2056	7"	100	5.00
2058	12"	100	17.50

NAIL KNOB



A 2-piece knob of glazed porcelain and a heavy nail for secure holding.

Number	Per Carton	List Price
2031	100	\$3.50

STAPLES

Made of coppered steel with sharply pointed tips for easy tacking. Properly insulated. Furnished in standard construction and also in brown, white and buff.



No.	Per Box	List Price
2041	Standard Type	50
2043	Colors	40

LEAD-IN STRIP—CLIP TYPE



(SOLDERED)
Weatherproofed and fully covered with a heavily lacquered braid. Fahnestock clips riveted and soldered to strap for firm contact.

Number	Length	Per Carton	List Price
2002	12"	50	\$6.00

(UNSOLDERED)
Constructed exactly like our No. 2002 but the clips are unsoldered.

Number	Length	Per Carton	List Price
2003	12"	250	\$5.00

LEAD-IN STRIP—SCREW TYPE



A heavily lacquered braid makes this strip weatherproof. The screws, nuts and washers are nickel-plated brass. Makes positive contact.

Number	Length	Per Carton	List Price
2005	12"	50	\$8.75

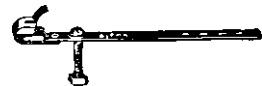
LEAD-IN STRIP—DOUBLET TYPE



Same construction as No. 2005 but 2 strips laid parallel and staggered to prevent contact, held apart by riveted fibre pieces. Especially adaptable to doublet antennas.

Number	Length	Per Carton	List Price
2004	12"	50	\$18.75

GROUND CLAMP



Heavy gauge strap, Fahnestock terminal and brass screw and nut. Makes a quick and positive connection. Fits 3/8" to 2" pipe.

Number	Per Carton	List Price
2012	50	\$5.00

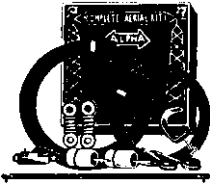
PIPE CLAMP

Cadmium plated. Is of neat appearance. Attaches the ground wire to the pipe easily and securely. Will last indefinitely.



No.	Per Carton	List Price
2011 "C" Type	50	\$5.25

ALPHA-WIRE-PRODUCTS



Alpha Aerial Kits are designed to meet the requirements of the various types of radio installations. Each kit is complete and boxed attractively.

No. 300

- 35 Ft. 7 Strand Copper Aerial Wire
 - 20 Ft. R. C. Lead-In Wire
 - 2 #2022 Porcelain Insulators
 - 2 #2031 Porcelain Nail Knobs
 - 1 #2012 Copper Ground Clamp
 - 1 #2002 Weatherproof Lead-In Strip
- List Price, Complete Kit.....\$0.58

No. 301

- 50 Ft. 7 Strand Copper Aerial Wire
 - 25 Ft. R.C. Lead-In Wire
 - 2 #2022 Porcelain Insulators
 - 2 #2031 Porcelain Nail Knobs
 - 1 #2012 Copper Ground Clamp
 - 1 #2002 Weatherproof Lead-In Strip
- List Price, Complete Kit.....\$0.65

AERIAL KITS

No. 307

- 75 Ft. 7/23 Copper Aerial Wire
 - 35 Ft. #16 Solid R.C. Lead-In Wire
 - 15 Ft. Indoor Wire
 - 2 #2021 Glass Insulators
 - 1 #2001 Lightning Arrester
 - 1 #2002 Weatherproof Lead-In Strip
 - 1 #2012 Copper Ground Clamp
 - 6 #2041 Insulated Staples
 - 2 #2031 Porcelain Nail Knobs
 - 2 Galvanized Screw Eyes
 - 2 Wood Screws
- List Price, Complete Kit.....\$1.45

No. 314

- 100 Ft. 7/22 Copper Aerial Wire
 - 50 Ft. #16 Stranded R.C. Lead-In Wire
 - 25 Ft. Indoor Wire
 - 1 #2001 Lightning Arrester
 - 2 #2021 Glass Insulators
 - 1 #2005 Screw Type Lead-In Strip
 - 1 #2011 "C" Type Ground Clamp
 - 2 #2052 Porcelain Screw Eyes
 - 2 #2031 Porcelain Nail Knobs
 - 6 #2041 Insulated Staples
 - 2 Wood Screws
- List Price, Complete Kit.....\$2.25

No. 304

- 75 Ft. 7/21 Copper Aerial Wire
 - 25 Ft. R.C. Lead-In Wire
 - 1 #2001 Lightning Arrester
 - 1 #2002 Weatherproof Lead-In Strip
 - 2 #2031 Porcelain Nail Knobs
 - 1 #2012 Copper Ground Clamp
 - 2 #2020 Glass Insulators
 - 2 Galvanized Screw Eyes
 - 2 Wood Screws
- List Price, Complete Kit.....\$1.10

No. 303

- 75 Ft. 7/27 Copper Aerial Wire
 - 25 Ft. R.C. Lead-In Wire
 - 1 #2015 Copper Ground Clamp
 - 2 #2022 Porcelain Insulators
 - 2 #2031 Porcelain Nail Knobs
 - 1 #2002 Weatherproof Lead-In Strip
 - 2 Galvanized Screw Eyes
- List Price, Complete Kit.....\$0.75

No. 310

- 75 Ft. 7/22 Copper Aerial Wire
 - 35 Ft. #16 Stranded R.C. Lead-In Wire
 - 25 Ft. Indoor Wire
 - 1 #2011 "C" Type Ground Clamp
 - 1 #2001 Lightning Arrester
 - 2 #2021 Glass Insulators
 - 1 #2005 Screw Type Lead-In Strip
 - 2 #2031 Porcelain Nail Knobs
 - 2 #2052 Porcelain Screw Eyes
 - 6 #2041 Insulated Staples
 - 2 Wood Screws
- List Price, Complete Kit.....\$1.80

DOUBLET AERIAL KITS



Soldered For Immediate Installation

KIT No. 25

- 1—All Wave Antenna Coupler
 - 2—30 Ft. Coils Stranded Tinned Aerial Wire
 - 1—50 Ft. Coil Transmission Cable #1149
 - 3—Glass Insulators #2020
 - 2—Glazed Porcelain Nail Knobs #2031
 - 1—"C" Type Pipe Clamp #2011
 - 2—Weatherproof Lead-In Strips #2002
 - 1—7" Porcelain Screw Eye #2056
 - 1—Instruction Sheet.
- List Price, Complete Kit.....\$2.65

KIT No. 24

- Same as Kit No. 25 Except without All Wave Antenna Coupler.
- List Price, Complete Kit.....\$1.75

KIT No. 31

- 1—All Wave Antenna Coupler
 - 2—46 Ft. Coils Stranded Aerial Wire
 - 1—75 Ft. Coil Transmission Cable #1146
 - 1—Triangular Antenna Block
 - 1—Double Screw Type Lead-In Strip #2004
 - 4—Glass Insulators #2020
 - 1—25 Ft. Coil Heavy Flexible R.C. Wire
 - 2—7" Porcelain Screw Eyes #2056
 - 2—Glazed Porcelain Nail Knobs #2031
 - 1—"C" Type Pipe Clamp #2011
 - 6—Insulated Staples #2041
 - 1—Instruction Sheet.
- List Price, Complete Kit.....\$3.90

KIT No. 30

- Same as Kit No. 31 except without All Wave Antenna Coupler.
- List Price, Complete Kit.....\$3.00

AERIAL WIRE

All Alpha Aerial Wire is properly annealed to assure required flexibility and tensile strength.

STRANDED—BARE

No.	Length	Material	List Price
101	7/20	100 Ft. Coil	\$1.25
104	7/20	75 Ft. Coil	.95
105	7/20	50 Ft. Coil	.64
106	7/20	1000 Ft. Spool	12.25
107	7/22	100 Ft. Coil	.75
110	7/22	75 Ft. Coil	.58
111	7/22	50 Ft. Coil	.40
112	7/22	1000 Ft. Spool	7.50
119	7/23	100 Ft. Coil	.62
122	7/23	75 Ft. Coil	.47
123	7/23	50 Ft. Coil	.33
124	7/23	1000 Ft. Spool	6.15
131	7/24	100 Ft. Coil	.50
134	7/24	75 Ft. Coil	.39
135	7/24	50 Ft. Coil	.27
136	7/24	1000 Ft. Spool	5.00
143	7/25	100 Ft. Coil	.43
146	7/25	75 Ft. Coil	.33
147	7/25	50 Ft. Coil	.23
148	7/25	1000 Ft. Spool	4.25
149	7/26	100 Ft. Coil	.37
152	7/26	75 Ft. Coil	.29
153	7/26	50 Ft. Coil	.20
154	7/26	1000 Ft. Spool	3.65
155	7/27	100 Ft. Coil	.31
158	7/27	75 Ft. Coil	.24
159	7/27	50 Ft. Coil	.17
160	7/27	1000 Ft. Spool	3.10
161	7/22	100 Ft. Coil	\$0.84
164	7/22	75 Ft. Coil	.64
165	7/22	50 Ft. Coil	.44
166	7/22	1000 Ft. Spool	8.40

STRANDED—TINNED

No.	Length	Material	List Price
173	7/23	100 Ft. Coil	.69
176	7/23	75 Ft. Coil	.53
177	7/23	50 Ft. Coil	.37
178	7/23	1000 Ft. Spool	6.90
185	7/24	100 Ft. Coil	.58
188	7/24	75 Ft. Coil	.44
189	7/24	50 Ft. Coil	.32
190	7/24	1000 Ft. Spool	5.75

SOLID—ENAMEL

No.	Length	Material	List Price
269	14	100 Ft. Coil	\$0.75
272	14	75 Ft. Coil	.58
273	14	50 Ft. Coil	.40
274	14	1000 Ft. Spool	7.50
275	12	100 Ft. Coil	1.15
278	12	75 Ft. Coil	.88
279	12	50 Ft. Coil	.60
280	12	1000 Ft. Spool	11.40
281	10	100 Ft. Coil	1.80
282	10	50 Ft. Coil	.94
283	10	1000 Ft. Spool	18.00

SOLID—TINNED

No.	Length	Material	List Price
284	14	100 Ft. Coil	.75
285	14	50 Ft. Coil	.40
286	14	1000 Ft. Spool	7.50
287	12	100 Ft. Coil	1.08
288	12	50 Ft. Coil	.58
289	12	1000 Ft. Spool	10.75
290	10	100 Ft. Coil	2.00
291	10	50 Ft. Coil	1.07
292	10	1000 Ft. Spool	20.00



STRANDED—BOXED

No.	Length	Material	List Price
1015	7/22	Tinned 100 Ft.	\$0.88
1019	7/22	Tinned 75 Ft.	.68
1020	7/20	Bare 100 Ft.	1.28
1025	7/22	Bare 100 Ft.	.80
1029	7/22	Bare 75 Ft.	.63
1035	7/23	Bare 100 Ft.	.65
1039	7/23	Bare 75 Ft.	.50

SOLID—BOXED

No.	Length	Material	List Price
1040	10	Enamel 100 Ft.	\$1.85
1045	12	Enamel 100 Ft.	1.18
1052	14	Enamel 100 Ft.	1.80
1060	10	Tinned 100 Ft.	2.05
1064	10	Tinned 25 Ft.	.55
1065	12	Tinned 100 Ft.	1.13
1069	12	Tinned 25 Ft.	.33
1070	14	Tinned 100 Ft.	.80
1074	14	Tinned 25 Ft.	.25
1075	16	Tinned 100 Ft.	.58
1079	16	Tinned 25 Ft.	.18

COPPERWELD ENAMEL AERIAL WIRE



GENERAL PURPOSE: Ideal for short wave and marine antennas, directional and doublet systems. Will not sag or stretch.

CONSTRUCTION: A solid steel core, heavily covered with pure electrolytic copper over which is baked black insulating enamel.

Number	Size	Carton	Tensile Strength	O. D.	List Price
1158	10	100 Ft.	1050 Lbs.	.103"	\$2.50
1159	12	100 Ft.	670 Lbs.	.083"	1.65
1160	14	100 Ft.	420 Lbs.	.066"	1.15

PHOSPHOR BRONZE AERIAL WIRE

GENERAL PURPOSE: Recommended especially for ship, short wave, and transmitting aeriels where high tensile strength is required.

CONSTRUCTION: 7 strands #18 Phosphor Bronze.

Number	Length	Tensile Strength	O. D.	List Price
1162	100 Ft. Carton	1000 Lbs.	.122"	\$4.40
1163	500 Ft. Spool	1000 Lbs.	.122"	22.00

DOUBLET TRANSMISSION LINE

GENERAL PURPOSE: Doublet style twisted lead-in designed for low loss coupling between antenna and receiver.

CONSTRUCTION—Braided Type: Two conductors #22-7/30 stranded tinned copper, 1/32" "Hi-Tension" Rubber, color coded, conductors twisted, cotton braid overall, saturated weather-proof finish.

No.	Length Feet	Capacity Bct. Conds. Per Foot	Frequency (KC)	Surge Impedance (Ohms)	Power Factor Percent	List Price
1146	500 Spool	21.8 mmf.	3,500	90.2	3.75	\$8.00
1148	100 Coil	21.8 mmf.	3,500	90.2	3.75	1.60
1149	50 Coil	21.8 mmf.	3,500	90.2	3.75	.80

CONSTRUCTION—All Rubber Type: Two conductors #22-7/30 stranded tinned copper, 1/32" "Hi-Tension" Rubber, color coded, conductors twisted, rubber jacket overall, black satin finish.

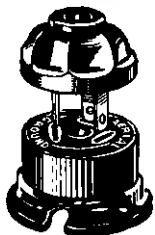
No.	Length	Capacity Bct. Conds. Per Foot	Frequency (KC)	Surge Impedance (Ohms)	Power Factor Percent	List Price
1135	500 Spool	21.8 mmf.	3,500	90.2	3.75	\$12.50
1137	100 Coil	21.8 mmf.	3,500	90.2	3.75	2.50
1138	50 Coil	21.8 mmf.	3,500	90.2	3.75	1.25

FLEERON

Radio Products

No. 329 HANDY TAP 3 WIRE

For Doublet Aerials, 3-Wire Aerial and Ground Connector



A much needed item. Brings Doublet Leads and Ground Wire to one point. Then to the Radio Set from 3 Wire Cap. Allows Radio to be quickly and easily disconnected. Makes a neat, workmanlike finish on every Radio Set installation. SAFE, CONVENIENT, UP-TO-DATE. Sell one with each set. Use them in your Radio Show Room. Body and Cap of Bakelite.

Cat. No.	Carton	Std. Pkg.	List
329 Complete with Cap	20	100	\$0.65
337 Cap Only			.35

ALL WAVE LIGHTNING ARRESTER

Carefully calibrated Air Gap Type Arrester. Insures maximum protection with minimum loss of signal. Sealed against moisture.



Cat. No.	Carton	Std. Pkg.	List, Each
92	10	50	\$0.35

Home Guard LIGHTNING ARRESTER With \$50 Protection Bond

Meets the demand for a lower priced arrester, but avoids trouble and service calls because of care in manufacture. Mineral Gap type. Each arrester in an attractive carton, with Counter Display Sign. Listed by Underwriters.



Cat. No.	Display Carton	Std. Pkg.	List, Each
20	10	100	\$0.50

CADET LIGHTNING ARRESTER

A high grade Air Gap type approved arrester, at a low price. Packed in individual cartons with two screws for mounting.



Cat. No.	Std. Pkg.	List, Each
80	100	\$0.25



No. 12

WEATHERPROOF AND SOLDERED COPPER LEAD-IN STRIPS

Insulated its entire length and thoroughly impregnated with a new process high gloss weather-proof, insulating varnish. End clips are soldered to strip.



No. 126

Cat. No.	Size	Carton	List, Each
12	3/8" x 12 1/2"	50	\$0.10
126	3/8" x 12 1/2"	50	.10



GROUND RODS

Made in two sizes—4 feet or 6 feet long—of 3/8 inch rod heavily galvanized. Wire is securely held by our special Ground Rod Clamp. We especially recommend the galvanized rod because of its non-corrosive qualities.

The Copper finished rod is available for those desiring a lower priced item.

Cat. No.	Length	Bundle	Std. Pkg.	List, Each
485 (Hot Galvanized)	4 ft.	20	100	\$0.50
725 (Hot Galvanized)	6 ft.	20	100	.65
45 (Copper Finish)	4 ft.	20	100	.40

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No. 29 HANDY TAP 2 WIRE



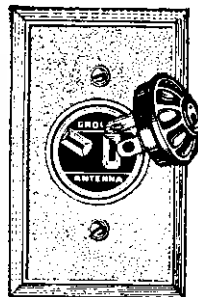
Polarized Radio Aerial and Ground Connector A convenient device for connecting the aerial and ground wires from the set to the aerial and ground lead-in wires. Packed in an individual carton with mounting screw. Separate Polarized Caps available. (Catalog No. 37.) Also furnished in combination with 110-V. receptacle (Cat. No. 32).

Cat. No.	Carton	List, Each
29 2 Wire	20	\$0.35
32 with 110 V. Receptacle	20	.50
37 Cap Only, 2 Wire	20	.15

FLUSH HANDY TAP*

Bakelite Flush Type Polarized Radio Aerial and Ground Connector

For use where concealed aerial and ground connections only are required and Power for your Radio is furnished from another outlet. Polarized Aerial and Ground Cap is included, which cannot be interchanged with Power Cap, insuring correct and positive connections for your Radio. Approved by Underwriters Laboratories.

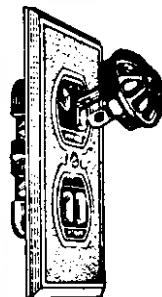


Cat. No.	List Price, Each
24 Receptacle & Polarized Cap only, 10 in carton	\$0.80
25 Receptacle, Polarized Cap and Brass Plate, 10 in carton	\$1.00
26 Receptacle, Polarized Cap and Bakelite Plate, 10 in carton	\$1.00
37 Polarized Aerial and Ground Cap only, 10 in carton	\$.15

*Registered U. S. Patent Office

DUO TAPS*

Bakelite Flush Type Polarized Radio Aerial and Ground Outlet



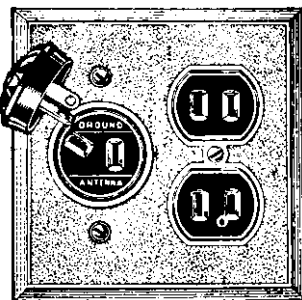
In Combination with 110 Volt Receptacle Aerial and Ground connections and Power for your Radio set all from a Single Gang outlet. Furnished complete with Polarized Aerial and Ground Cap, which cannot be interchanged with Power Cap, insuring correct and positive connections for your Radio.

Cat. No.	Carton	List Price Each
34 Receptacle, Polarized Cap and Brass Plate	10	\$1.50
35 Receptacle and Polarized Cap Only	10	1.35
36 Receptacle, Polarized Cap and Bakelite Plate	10	1.50
37 Polarized Aerial and Ground Cap Only	10	.15

* Registered U. S. Patent Office.

DUPLEX DUO TAP*

Flush Polarized Radio Aerial and Ground Connector in combination with Duplex 110 Volt receptacle



Duplex Duo Tap

Concealed aerial and ground connections in combination with Duplex Electric receptacle. Furnished complete with Polarized Aerial and Ground Cap, which cannot be interchanged with Power Cap, insuring correct and positive connections for your Radio. Separator Plate included. Approved by Underwriters Laboratories.

Cat. No.	Carton	List Price Each
42 Receptacle, Polarized Cap and Brass Plate	10	\$2.00
43 Receptacle, Polarized Cap and Bakelite Plate	10	2.00
37 Polarized Aerial and Ground Cap Only	10	.15

*Registered U. S. Patent Office.

FLERON

Radio Products

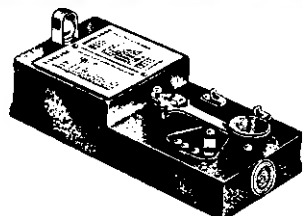


OFFICIAL BOY SCOUT SIGNALER Radio — Blinker — Telegraph

Operates from 2 self-contained standard flashlight cells. Pocket size. Black and Nickel Finish. Packed 1 to Carton (Cat. No. 1095), and 2 to Carton (Cat. No. 21095). With the double unit is included 100 ft. connecting wire so that 2 sets can be used and messages sent or received.

Cat. No.		List, Each
1095		\$1.50
21095	with 100 ft. connecting wire	3.50

Net price quotations to Trade are without Batteries



Cat. No. 1095

Showing 2 Sets with 100 feet connecting wire. Cat. No. 21095

No. 6 GROUND CLAMP

To those desiring a lighter clamp than our No. 4 we suggest our No. 6 clamp. It is made of narrower, thinner metal, cadmium plated. Ground wire is fastened under separate contact screw.

Cat. No.	Carton	List, Each
6	50	\$0.08



No. 188 AERIAL SPRING TIGHTENER



For holding aerial wire tight and straight. Prevents breakage when swaying in wind or if covered with heavy snow and ice or if anchored to trees, etc. Improved Rust Proofing.

Cat. No.	Carton	List, Each
188	50	\$0.50

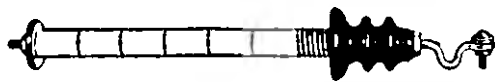
STOP NOISE IN RADIO FROM ELECTRIC RAZORS



Remarkable new device finds quick sale. Has been carefully tested and works like magic. Just plugs in ahead of razor. Works on other small appliances not over 100 watts. Display stand with each carton. Made of Bakelite.

Cat No.	Carton	Std. Pkg.	List
192	12	144	\$1.00

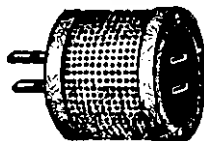
PORCELAIN LEAD-IN BUSHING



This device makes a workmanlike finish at a point in aerial installation that has been a source of power loss. Maximum length, 14 inches. Porcelain sections slide off brass rod to any wall thickness up to 9/16 inches. Threaded rod can then be cut at any desired point. Black Porcelain. Black Glaze. Passed by Underwriters Laboratories. Each Bushing in carton.

Cat. No.	Carton	Std. Pkg.	List, Each
9	10	25	\$1.25

TUBETEX—Line Voltage Regulator



Improved type of Line Voltage Control. Furnished in two ratings—No. 1 for sets up to and including 80 watts (or up to 7-tube sets); No. 2 for sets up to and including 175 watts (or from 8 to 12-tube sets).

Cat. No.	Carton	List, Each
196 (0-80 Watts)	24	\$1.00
296 (80-175 Watts)	24	1.00

AEROPLANE TYPE STRAIN INSULATORS



Lap Type Strain Insulator, made of Fleron High Test Porcelain, finished in White Glaze.

Made in two sizes as follows:

Cat. No.	Size	Carton	List, Each
23	13-16" x 1 1/2"	100	\$0.07
73	1 1/4" x 2 1/2"	100	.10

SCREW EYE INSULATORS



Made in three sizes. Porcelain ring made of Fleron Blue Porcelain. Screw eyes of steel, hot tinned finish.

Cat. No.	Size	Carton	List, Each
318	3"	50	\$0.05
618	6 1/4"	50	.07
1218	12"	20	.20

HEAVY DUTY AERIAL INSULATOR



Extra Strong Black or White Glaze Porcelain. Individual Cartons

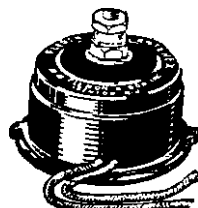
Cat. No.	Size	Std. Pkg.	List, Each
40	8" x 1 1/2"	20	\$0.80

ANTENEX INDOOR AERIAL

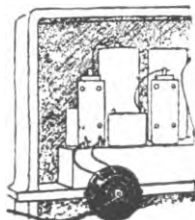
The best selling Aerial Eliminator on the market because of: Performance — Ease of Installation — Attractive Display Material — Quality of Product.

High-powered Display material packed with every dozen turns hundreds of thousands of prospects into SALES.

Cat. No.	Carton	Std. Pkg.	List, Each
94	12	144	\$1.00



Sells on Sight



Attaches to Any Radio



RADIO WIRE products

NOISE-MASTER ALL-WAVE ANTENNA

FOR EVERY SET AND LOCATION

Eliminates "man-made" static on broadcast as well as short wave bands.



There is a correct "NOISE-MASTER" antenna for every set and location. Radio reception is enjoyed to its fullest extent by installing one of these competent units. "NOISE-MASTER" is scientifically engineered to filter out the innumerable nuisance noises caused by electrical devices . . . assuring perfect reception over broadcast as well as short-wave frequency.

No. 14 "NOISE-MASTER"

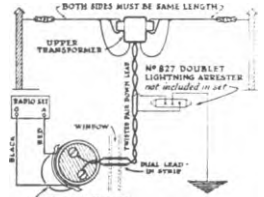
\$6.75 LIST. Code: CORAL. Wt. 2 lbs. 12 oz.

Recommended where there are sufficient "man-made" noises to interfere with radio reception over both the short-wave and broadcast bands. Licensed under Amy, Aceves & King patent No. Re. 19854. A highly engineered product which makes one aerial act electrically as two perfect

antennas. Two or more sets (preferably not more than 4) can be operated at the same time on the same antenna by using an additional lower transformer unit on each additional set. Assures highest efficiency over the entire receiving band.

CONTENTS:

- | | |
|---|------------------------------|
| 2—30 foot coils of stranded copper antenna wire | 3—6" screw eye insulators |
| 1 upper transformer assembly | 1 No. 755 dual lead-in strip |
| 2 glass insulators | 1 lower transformer unit |
| 75 feet twisted pair down lead | 1—4" porcelain tube |
| | 1 instruction sheet |
- No. 14a Code: CUTAT—Kit containing upper and lower transformers only.....List \$5.00
 No. 127 (Code: CYTAT)—Extra lower transformers, each.....List 2.25
 No. 14b (Code: CATAV)—"EUROPEAN NOISE-MASTER." Same as No. 14 except that transformers are designed to operate on 15 to 2100 meters.....List 7.00
 No. 128 (Code CYTAR)—European type lower transformer.....List 2.50



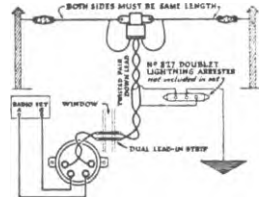
No. 14

No. 19 "NOISE-MASTER" . . \$4.00 LIST.

This antenna is a deluxe doublet employing an Amy, Aceves & King licensed Self-Selecting matching transformer and a junction box in the antenna line. Easy to install and factory fabricated. When properly erected it assures excellent all-wave reception.

CONTENTS:

- | | |
|---------------------------------------|--------------------------------------|
| 2—30 ft. coils 7/23 aerial wire | 1 No. 755 dual lead-in strip |
| 2—No. 1 porcelain insulators | 1—4" porcelain tube |
| 1 junction-box assembly | 1 No. 129 Self-Selecting transformer |
| 75 ft. No. 123 twisted pair down lead | 1 instruction sheet. |
| 3—6" screw eye insulators | |



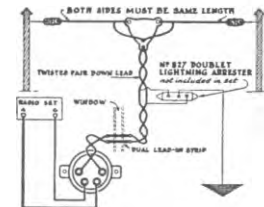
No. 19

No. 18 "NOISE-MASTER" . . \$3.25 LIST.

A licensed Amy, Aceves & King antenna at a popular price! Simple doublet type, featuring a high-grade Self-Selecting licensed matching transformer. Easy to install and completely factory fabricated. Recommended for locations where "man-made" static interferes with short-wave but not with ordinary broadcast reception.

CONTENTS:

- | | |
|---|---|
| 2—30 ft. coils 7/24 "TRI-COR" all-wave aerial wire | 10 ft. coil stranded twisted pair brown inside lead-in wire |
| 2 No. 2 glass insulators | 3—6" screw eye insulators |
| 1 triangular porcelain center insulator | 1 No. 755 dual lead-in strip |
| 50 ft. No. 117 stranded twisted "TU KOLOR" down lead (connected at our factory to the two coils of aerial wire at center insulator) | 1—4" porcelain tube |
| | 1 No. 129 Self-Selecting transformer |
| | 1 instruction sheet |



No. 18

BROADCAST ANTENNA KITS

These are popular priced broadcast kits of the "L" type. Each kit contains the necessary parts for the installation of the complete antenna. They are furnished in an attractive two-color box.

**Kit No. 3
THE MAJOR**
Code: CYTAM. Wt. 3 lbs.
CONTENTS:
75 ft. No. 15 stranded aerial wire; 35 ft. rubber-covered lead-in wire; 1 No. 825 lightning arrester; 2 glass insulators; 2 glazed porcelain nail knobs; 1—3" screw eye stand-off insulator; 1 No. 760 high gloss lead-in strip; 1 No. 710 "C" type ground clamp; 15 ft. flexible rubber-covered wire; 6 insulated staples; 2 wood screws.

\$1.35 List

**Kit No. 4
THE CAPTAIN**
Code: CYTON. Wt. 2½ lbs.
CONTENTS:
75 ft. 7/24 stranded aerial wire; 25 ft. rubber-covered lead-in wire; 1 No. 825 lightning arrester; 2 porcelain insulators; 2 glazed porcelain nail knobs; 1 No. 760 high gloss lead-in strip; 1 No. 712 "O" type ground clamp; 15 ft. flexible rubber-covered wire; 2 wood screws.

\$1.10 List

**Kit No. 5
THE LIEUTENANT**
Code: CYTAO. Wt. 2 lbs.
CONTENTS:
75 ft. 7/27 stranded aerial wire; 25 ft. rubber-covered lead-in wire; 1 No. 825 lightning arrester; 2 porcelain insulators; 2 nail knobs; 1 No. 707 strap-type ground clamp; 1 No. 770 lead-in strip; 2 wood screws.

85c List





RADIO WIRE products

AERIAL WIRE

The most careful attention has been given to those properties which make CORWICO aerial wire the most suitable for radio reception; viz., large surface area, high electric conductivity, and tensile strength.

STRANDED BARE WIRE

No.	7/20	List Price
64	100-ft. coil	\$1.30
7/22		
40A	75-ft. coil	.60
40	100-ft. coil	.79
40B	1000-ft. spool	7.90
7/22 (14 B&S)		
51A	75-ft. coil	.55
51	100-ft. coil	.73
51B	1000-ft. spool	7.30
7/23		
41A	75-ft. coil	.49
41	100-ft. coil	.65
41B	1000-ft. spool	6.50
7/23 (15 B&S)		
31A	75-ft. coil	.45
31	100-ft. coil	.58
31B	1000-ft. spool	5.80
7/24		
42A	75-ft. coil	.41
42	100-ft. coil	.53
42B	1000-ft. spool	5.30
7/24 (16 B&S)		
50A	75-ft. coil	.38
50	100-ft. coil	.50
50B	1000-ft. spool	5.00
7/26		
30A	75-ft. coil	.28
30	100-ft. coil	.36
30B	1000-ft. spool	3.60

SOLID BARE WIRE

No.	14	List Price
57	100-ft. coil	.62
57B	1000-ft. spool	6.20
No. 15		
55	100-ft. coil	.50

STRANDED TINNED WIRE

No.	7/22	List Price
45A	75-ft. coil	.68
45	100-ft. coil	.89
45B	1000-ft. spool	8.90

LEAD-IN WIRE

STRANDED

No.	Ft.	Size	List Price	No.	Ft.	Size	List Price
300	50	coil 18- $\frac{3}{32}$ "	.38	310	50	coil 16- $\frac{3}{32}$ "	.45
301	100	spool 18- $\frac{3}{32}$ "	.75	311	250	spool 16- $\frac{3}{32}$ "	2.30
302	500	spool 18- $\frac{3}{32}$ "	3.60	312	500	spool 16- $\frac{3}{32}$ "	4.35
303	1000	spool 18- $\frac{3}{32}$ "	7.00	313	1000	spool 16- $\frac{3}{32}$ "	8.50

SOLID

320	25	coil 18- $\frac{3}{32}$ "	.20	330	25	coil 20- $\frac{3}{32}$ "	.17
321	50	coil 18- $\frac{3}{32}$ "	.38	331	50	coil 20- $\frac{3}{32}$ "	.32
322	500	spool 18- $\frac{3}{32}$ "	3.35	332	500	spool 20- $\frac{3}{32}$ "	2.85
323	1000	spool 18- $\frac{3}{32}$ "	6.50	333	1000	spool 20- $\frac{3}{32}$ "	5.50

COLORED RUBBER LEAD-IN AND GROUND WIRE

Colors: Red, Black, Green, White

No.	List Price, Each	No.	List Price, Each
215	No. 16 str., 25-ft. .... .31	217	No. 16 str., 100-ft. 1.15
216	No. 16 str., 50-ft. .... .60	218	No. 16 str., 1000-ft. 11.00

TWISTED PAIR DOWNLEADS

No. 122—List Mft. \$16.00

This is a popular-priced twisted pair down lead consisting of two conductors, each No. 22 stranded copper, 1/32" and rubber-covered (one black, one red), twisted and covered with overall black weatherproof braid.

No. 116—List Mft. \$30.00

This is a heavy twisted pair down lead especially designed for use in doublet type antennas. Each conductor consists of No. 16 (26/30) stranded tinned copper wire with a 1/32" rubber covering and a single white weatherproof braid. The two conductors are then twisted together.

No. 120—List Mft. \$18.00

This is a cheaper twisted pair down lead consisting of two conductors each No. 20 (10/30) stranded copper, 1/32" rubber covered twisted and covered with an overall black weatherproof braid.

ANTENNA ACCESSORIES

LIGHTNING ARRESTERS

Extreme care has been given to the design of these arresters to produce low-priced products of greatest possible value.

No.	List Price
No. 825—2 Pole	20c
No. 827—3 Pole (Doublet)	30c



LEAD-IN STRIPS

All Strips 12" Long—Packed 50 to a Carton

No.	List per C
760— $\frac{1}{2}$ " Zinc, High Gloss, Soldered Terminals	\$5.48
761— $\frac{1}{2}$ " Zinc, High Gloss, not Soldered Terminals	4.97
770— $\frac{1}{8}$ " Zinc, Dull Finish, not Soldered Terminals	4.10
771— $\frac{1}{8}$ " Zinc, Dull Finish, Soldered Terminals	4.62
750— $\frac{1}{2}$ " Copper, High Gloss, Soldered Terminals	6.12
751— $\frac{1}{2}$ " Copper, High Gloss, not Soldered Terminals	5.69

SCREW END LEAD-IN STRIPS



Equipped with screw-type terminals, insuring positive and lasting contact. Length 12"—Packed 50 to a Carton.

No. 780—Copper, High Gloss	List per C \$6.50
No. 781—Zinc, High Gloss	List per C 5.88
No. 755—Doublet, Copper, High Gloss	List per C 15.00

BATTERY CLIPS



Spring jaw clips for instant connection to wet or dry batteries. Packed 30 to carton.

SCREW EYE INSULATORS

Packed 50 to a Carton

No.	List per C
795—Porcelain Eye, 3"	\$3.63
796—Porcelain Eye, 6"	4.15
797—Bakelite Eye, 3"	4.45
798—Bakelite Eye, 6"	5.56

GROUND CLAMPS



We manufacture a complete line of ground clamps of all types, for every purpose.

"C" TYPE GROUND CLAMP.

710 Hardened steel point, assures positive ground connection. Opening $1\frac{1}{4}$ ". Packed 50 to a carton.

No. 710—Cadmium Plated	List per C \$5.50
No. 713—Plain Finish	List per C 4.25

707 SADDLE TYPE GROUND CLAMP. Hardened steel point assures positive contact. Easily applied to any pipe or rod from $\frac{1}{4}$ " to $2\frac{1}{2}$ " in diameter. Cadmium Plated. Packed 50 to a carton.

No. 700—Saddle Type	List per C \$5.00
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700 STRAP TYPE GROUND CLAMP. Packed 50 to a carton. The No. 708 Clamps have a coppered finish.

No. 707—Copper Strap Clamp	List per C \$3.75
No. 708—Steel Strap Clamp	List per C 3.35

GROUND RODS No. 785

Made of $\frac{3}{8}$ " coppered steel, 4 ft. long. Has adjustable saddle with pointed screw for positive ground connection. Packed—12.

Weight 20 lbs. Each	50c
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GLASS INSULATORS

Substantially made of non-brittle crystal glass.

No. 1—3" length, 100 per carton	List per C \$6.00
No. 2—3 $\frac{3}{4}$ " length, 25 per carton	List per C 6.50

PORCELAIN INSULATORS

Made of high grade glazed porcelain for long and short wave antennas.

No. 790	List per C \$3.90
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RADIO WIRE products

P-A WIRES and CABLES HOLLYWOOD MICROPHONE CABLES

(Shielded—Rubber Jacketed)

Substantially made to withstand rough usage. Special low capacity color coded rubber used on conductors. Braided with tinned copper shield. Tough weatherproof polished rubber jacket overall. Single conductor—unusually low capacity. Can be used up to 100 ft. with high impedance ribbon microphones and up to 50 ft. with crystal microphones.

Cat. No.	Conductors	Feet on Spool	Approx. Outside Diam.	List Price
1105	1	100	1/8"	\$ 5.00
2104	1	500	3/8"	24.00
2101	1	1000	3/8"	47.00
Two conductor, for low impedance microphones and transmission lines.				
1152	2	100	1/8"	6.40
1153	2	250	1/8"	16.00
2152	2	500	1/8"	32.00
1154	3	100	1/8"	9.25
1155	3	250	1/8"	18.50
2153	3	500	1/8"	37.00
1156	4	100	3/8"	11.75
1157	4	250	3/8"	23.50
2154	4	500	3/8"	47.00
1158	5	100	3/8"	12.00
1159	5	250	3/8"	30.00
1160	6	100	1/2"	13.60
1161	6	250	1/2"	34.00

MULTI-CONDUCTOR RUBBER JACKETED CABLES

(Not Shielded)

Principally Used as Speaker Extension Cables

Cat. No.	Conductors	Feet on Spool	Approx. Outside Diam.	List Price
2160	2	100	1/4"	4.10
2161	2	250	1/4"	10.25
2162	2	500	1/4"	20.50
2163	3	100	1/4"	6.00
2164	3	250	1/4"	15.00
2165	3	500	1/4"	30.00
2166	4	100	1/4"	7.50
2167	4	250	1/4"	18.75
2168	4	500	1/4"	37.50

SHIELDED CABLES

These cables are recommended for sound recording equipment and P.A. systems where a flexible shielded cable is necessary. Each conductor consists of multi-strand copper wire cotton served, rubber covered and braided with color-coded cotton.

Cat. No.	Put-Up	List Price Each
1114	100 spool 2 Conductor	\$ 4.50
1115	250 spool 2 Conductor	11.25
1116	100 spool 3 Conductor	6.50
1117	250 spool 3 Conductor	16.25
1118	100 spool 4 Conductor	8.00
1119	250 spool 4 Conductor	20.00
1120	100 spool 5 Conductor	9.50
1121	250 spool 5 Conductor	23.75
1122	100 spool 6 Conductor	11.00
1123	250 spool 6 Conductor	27.00

SHIELDED CABLES—COTTON BRAID OVERALL

Cat. No.	Put-Up	List Price Each
1124	100 spool 2 Conductor	\$ 5.50
1125	250 spool 2 Conductor	13.75
1126	100 spool 3 Conductor	7.75
1127	250 spool 3 Conductor	19.25
1128	100 spool 4 Conductor	9.25
1129	250 spool 4 Conductor	23.00
1130	100 spool 5 Conductor	11.00
1131	250 spool 5 Conductor	27.00
1132	100 spool 6 Conductor	12.50
1133	250 spool 6 Conductor	30.50

RADIO BATTERY CABLE AND DYNAMIC SPEAKER EXTENSION CABLE

Made of multi-conductor cable. Flexible conductors with over-all heavy cotton braid. Individual conductor consists of stranded copper, rubber covered with color-coded cotton braid. Suitable to all types of P.A. systems.

Cat. No.	Put-Up	List Price Each
228	3 wire-100 Ft. Spool	\$ 3.50
219	4 wire-100 Ft. Spool	4.50
221	5 wire-100 Ft. Spool	5.50
231	6 wire-100 Ft. Spool	6.50
241	7 wire-100 Ft. Spool	7.50
222	8 wire-100 Ft. Spool	8.50
223	9 wire-100 Ft. Spool	9.50
224	10 wire-100 Ft. Spool	10.50
227	12 wire-100 Ft. Spool	11.50

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SHIELDED LEAD-IN AND GROUND WIRE

These products are made of flexible stranded copper conductors insulated with a substantial wall of high grade rubber with an overall of close tinned copper shield. They are most frequently used as a shielded down lead to ground out interference noise.

No. 20 FLEXIBLE 1/32" R.C.		List Price Each
Cat. No.	Put-Up	
1143	50 Ft. Coil	\$ 1.05
1144	250 Ft. Spool	5.10
1145	1000 Ft. Spool	19.00
No. 18 FLEXIBLE 1/32" R.C.		List Price Each
Cat. No.	Put-Up	
1146	50 Ft. Coil	\$ 1.20
1147	250 Ft. Spool	5.80
1148	1000 Ft. Spool	21.00
No. 16 FLEXIBLE 1/32" R.C.		List Price Each
Cat. No.	Put-Up	
1149	50 Ft. Coil	\$ 1.50
1150	250 Ft. Spool	7.25
1151	500 Ft. Spool	14.00

AUTO RADIO WIRES and CABLES



SHIELDED LOW CAPACITY CABLE

Extremely low capacity between conductor and shield used in auto radio for antenna lead-in and elsewhere where a low capacity wire is required.

Cat. No.	Put-Up	List Price Each
1100	50' Coil 1/2" O.D.	\$5.65
1101	100' Coil 1/2" O.D.	10.70
1102	50' Coil 3/4" O.D.	4.20
1103	100' Coil 3/4" O.D.	7.95

SHIELDED LOW CAPACITY LOOM

Frequently used in auto radio as a shield for the antenna lead-in. Inside Diameter 3/8" (Approx.). Outside Diameter 1/2" (Approx.)

BRAIDED TINNED COPPER TUBULAR SHIELDING

Convenient shielding for auto radio installations. We recommend the 1/4" width for wires up to 3/8" O.D. and the 1/2" width for larger wires.

Cat. No.	Put-Up	Width	List Price Each
1108	50 Ft. Spool 1/4"	1/4"	\$2.50
1109	100 Ft. Spool 1/4"	1/4"	4.30
1110	250 Ft. Spool 1/4"	1/4"	9.70
1111	50 Ft. Spool 1/2"	1/2"	4.10
1112	100 Ft. Spool 1/2"	1/2"	7.80
1113	250 Ft. Spool 1/2"	1/2"	18.90

SHIELDED IGNITION CABLE

Consists of a No. 16 Stranded Conductor with high grade rubber wall with a lacquered braid and overall tinned copper shield. This wire is effectively used in secondary circuits in auto radio and also in photo electric cell leads.

Cat. No.	Type	Spool	List Price Each
1134	7MM R.W.—100'		\$ 9.00
1136	7MM R.W.—250'		23.00
1137	3/8" R.W.—100'		3.90
1139	3/8" R.W.—500'		16.50



FLEXIBLE CORDS

(Fixture Wires—Lamp Cords)

Fixture wires often used as all-purpose radio and lead-in wire. Lamp cords used for power supply and extension cords. Colors: Brown, Black, Ivory.

Cat. No.	Put-Up	List Price per M ft.
133	No. 20 Single, Type F, Cotton	1000 ft. \$ 6.75
136	No. 18 Single, Type F, Cotton	1000 ft. 8.00
*138	No. 18 Parallel, Type PO, Rayon	250 ft. 18.75
*139	No. 18 Parallel, Type POSJ, All Rubber	250 ft. 18.75
*132	No. 18 All Rubber Service Cord, Type SJ	250 ft. 33.50

* Has Underwriter's Labels.

TEST LEAD WIRE

A super flexible conductor covered with heavy live rubber. Will not wear, kink or crack. Made in Black and Red. Mention color when ordering.

Cat. No.	Put-Up	List Price Each
1140	100 Ft. Spools	\$ 2.40
1141	500 Ft. Spools	11.00
1142	1000 Ft. Spools	21.50

AC-DC Antenna Lead Wire

A replacement antenna wire for Universal Sets at a minimum cost. The type of wire used incorporates the well-known Corlac insulation between the copper conductor and the outside brown cotton braid which not only assures a moisture-proof product but also greatly tends to make the wire non-kinkable.

Cat. No.	Put-Up	List Price Each
660A	25 Ft. on Fibre	\$0.25
660B	100 Ft. on Spools	.75
660C	500 Ft. on Spools	3.25
660	1000 Ft. on Spools	6.00
Same Wire Without Corlac Insulation		
661	on 1000 Ft. Spools	4.80



RADIO WIRE *products*

RADIO HOOK-UP WIRES



"BRAIDITE" PUSH-BACK WIRE

These Hook-Up wires are the standard type of push back wires. They have a cotton serve and an impregnated braid which slides back easily from the tinned copper conductor, thus making it easy to solder.

Plain		No. 22 SOLID		Lacquered	
Cat. No.	Put-Up	List Price Each	Cat. No.	Put-Up	List Price Each
398	25 Ft. Cartons	\$0.25	416	25 Ft. Cartons	\$0.28
399	100 Ft. Spools	0.85	417	100 Ft. Spools	0.95
400	1000 Ft. Spools	5.40	418	1000 Ft. Spools	6.25
No. 20 SOLID					
401	25 Ft. Cartons	\$0.27	419	25 Ft. Cartons	\$0.31
402	100 Ft. Spools	0.95	420	100 Ft. Spools	1.10
403	1000 Ft. Spools	6.20	421	1000 Ft. Spools	7.20
No. 18 SOLID					
404	25 Ft. Cartons	\$0.33	422	25 Ft. Cartons	\$0.36
405	100 Ft. Spools	1.20	423	100 Ft. Spools	1.40
406	1000 Ft. Spools	8.50	424	1000 Ft. Spools	9.70
No. 22 STRANDED					
407	25 Ft. Cartons	\$0.285	425	25 Ft. Cartons	\$0.32
408	100 Ft. Spools	1.00	426	100 Ft. Spools	1.10
409	1000 Ft. Spools	6.35	427	1000 Ft. Spools	7.30
No. 20 STRANDED					
410	25 Ft. Cartons	\$0.32	428	25 Ft. Cartons	\$0.36
411	100 Ft. Spools	1.10	429	100 Ft. Spools	1.25
412	1000 Ft. Spools	7.40	430	1000 Ft. Spools	8.55
No. 18 STRANDED					
413	25 Ft. Cartons	\$0.37	431	25 Ft. Cartons	\$0.42
414	100 Ft. Spools	1.40	432	100 Ft. Spools	1.60
415	1000 Ft. Spools	9.70	433	1000 Ft. Spools	11.30

"CORLAC" HOOK-UP WIRE

For the discriminating service man who knows the importance of voltage break down and insulation resistance. Special under-insulation makes this hook-up wire moisture-proof and gives voltage break-down of 3100 volts (as per certified report of Electrical Testing Laboratory, N. Y. C.). Excellent push-back. Tinned copper conductors.



Plain		Lacquered			
Cat. No.	Put-Up	List Price Each	List Price Each		
No. 22 SOLID					
434	25 Ft. Cartons	\$0.29	452	25 Ft. Cartons	\$0.33
435	100 Ft. Spools	1.05	453	100 Ft. Spools	1.20
436	1000 Ft. Spools	6.65	454	1000 Ft. Spools	8.00
No. 20 SOLID					
437	25 Ft. Cartons	\$0.33	455	25 Ft. Cartons	\$.40
438	100 Ft. Spools	1.20	456	100 Ft. Spools	1.40
439	1000 Ft. Spools	8.00	457	1000 Ft. Spools	9.50
No. 18 SOLID					
440	25 Ft. Cartons	\$0.39	458	25 Ft. Cartons	\$.44
441	100 Ft. Spools	1.50	459	100 Ft. Spools	1.65
442	1000 Ft. Spools	10.00	460	1000 Ft. Spools	11.70
No. 22 STRANDED					
443	25 Ft. Cartons	\$0.335	461	25 Ft. Cartons	\$0.38
444	100 Ft. Spools	1.20	462	100 Ft. Spools	1.30
445	1000 Ft. Spools	7.85	463	1000 Ft. Spools	9.30
No. 20 STRANDED					
446	25 Ft. Cartons	\$0.40	464	25 Ft. Cartons	\$0.45
447	100 Ft. Spools	1.40	465	100 Ft. Spools	1.55
448	1000 Ft. Spools	9.40	466	1000 Ft. Spools	11.10
No. 18 STRANDED					
449	25 Ft. Cartons	\$0.46	467	25 Ft. Cartons	\$0.54
450	100 Ft. Spools	1.70	468	100 Ft. Spools	1.95
451	1000 Ft. Spools	12.40	469	1000 Ft. Spools	14.50

COLOR RUBBER HOOK-UP WIRE



When a rubber covered hook-up wire is necessary the following products are recommended. They are made of Stranded Tinned Copper Wire covered with live rubber sufficient to withstand any voltage ordinarily used in radio. For circuit distinction these products are covered with colored rubber in Red, Green, Black and White.

No. 515	25 Ft. Cartons	No. 18—1/64" R.C.	\$0.35
No. 515B	1000 Ft. Spools	No. 18—1/64" R.C.	8.70
No. 215	25 Ft. Coils	No. 16—1/32" R.C.	35
No. 218	1000 Ft. Coils	No. 16—1/32" R.C.	11.80



"NUCOR" HOOK-UP WIRE

By using a special soft rubber insulation this wire has the highest possible electrical properties of insulation resistance and voltage break-down for a push back wire (13,000 volts as per certified report of Electrical Test Laboratory of New York City). Tinned Copper conductors.

Plain		Lacquered			
Cat. No.	Put-Up	List Price Each	List Price Each		
No. 22 SOLID					
470	25 Ft. Cartons	\$0.38	485	25 Ft. Cartons	\$0.43
471	100 Ft. Spools	1.36	486	100 Ft. Spools	1.56
472	1000 Ft. Spools	8.15	487	1000 Ft. Spools	9.10
No. 20 SOLID					
473	25 Ft. Cartons	\$0.43	488	25 Ft. Cartons	\$0.49
474	100 Ft. Spools	1.55	489	100 Ft. Spools	1.75
475	1000 Ft. Spools	9.75	490	1000 Ft. Spools	10.85
No. 22 STRANDED					
476	25 Ft. Cartons	\$0.435	491	25 Ft. Cartons	\$0.49
477	100 Ft. Spools	1.55	492	100 Ft. Spools	1.70
478	1000 Ft. Spools	9.60	493	1000 Ft. Spools	10.65
No. 20 STRANDED					
479	25 Ft. Cartons	\$0.52	494	25 Ft. Cartons	\$0.58
480	100 Ft. Spools	1.82	495	100 Ft. Spools	2.02
481	1000 Ft. Spools	11.40	496	1000 Ft. Spools	12.65
No. 18 STRANDED					
482	25 Ft. Cartons	\$0.62	497	25 Ft. Cartons	\$0.72
483	100 Ft. Spools	2.40	498	100 Ft. Spools	2.90
484	1000 Ft. Spools	14.90	499	1000 Ft. Spools	16.50

"HANDY" SPOOL ASSORTMENT

(One Price Spools)

This "Silent Sam" works day and night. An easy, attractive way to sell the fast moving kinds of wire. . . . All one price.



FREE DISPLAY WITH INITIAL ORDER FOR 100 SPOOLS

Extra Display Racks \$1.25

LIST PRICE, per spool . 60c

Cat. No.	Approx. ft.
1250—No. 22 Solid Push Back	80
1251—No. 20 Solid Push Back	70
1252—No. 18 Solid Push Back	60
1253—No. 16 Solid Push Back	40
1254—No. 22 Stranded Push Back	70
1255—No. 20 Stranded Push Back	60
1256—No. 18 Stranded Push Back	50
1257—No. 16 Stranded Push Back	35
1258—No. 18 Stranded Colored Rubber	60
1259—No. 16 Stranded Colored Rubber	40
1260—AC-DC Aerial Wire	100
1261—No. 18 Solid Lead-in Wire	70
1262—No. 18 Stranded Lead-in Wire	75
1263—No. 20 Single Fixture Wire	65
1264—No. 18 Single Fixture Wire	55
1265—No. 18 Stranded 1/2" R.C. Lacquered	40
1266—No. 18 White Bell Wire	100
1267—No. 18 Solid Tinned Copper (Bare)	100
1268—No. 18 Parallel Silk Lamp Cord	30
1269—No. 18 Parallel All Rubber Lamp Cord	30
1270—No. 18 Twisted Lamp Cord	25
1271—Test Lead Wire	35
1272—No. 18 Stranded Shielded	20

MAGNET WIRE DISPLAY

The best way to sell magnet wire. Supplied in even gauges from 16 to 36, on one price spools in plain enamel, double cotton and double silk.

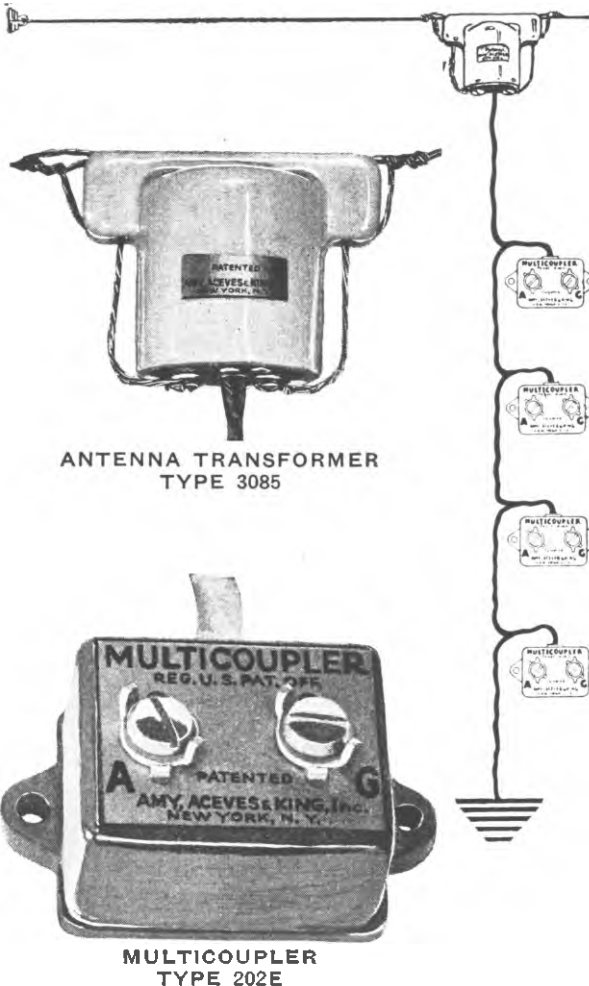
LIST PRICE, per spool 35c

Free display rack with initial orders for 100 spools.
EXTRA RACKS, \$1.25

ALL-WAVE "Multicoupler" Antenna Systems

TRADE MARK REG.

for APARTMENT HOUSES, RESIDENCES, HOTELS,
INSTITUTIONS, HOSPITALS, SCHOOLS, ETC.



ANTENNA TRANSFORMER
TYPE 3085

MULTICOUPLER
TYPE 202E

Since 1928 Amy, Aceves & King, Inc., Consulting Engineers, have specialized in antenna problems. The All-Wave "Multicoupler" Antenna Systems provide standard broadcast and short wave reception for 25 radio sets on one aerial with NOISE REDUCTION.

THE ALL-WAVE MULTICOUPLER ANTENNA SYSTEM consists of an efficient antenna on the roof, used in connection with antenna transformer connected to twisted pair downlead, generally run down the court or side wall of the building to which multicouplers are attached. These units are conveniently located inside the tenant's window to which the radio set is connected.

It is fully protected by U. S. Patents Nos. Re. 19,854, 1,938,092, 2,002,844 and others.

NOISE REDUCTION

Maximum reduction of outside noises. The employment of a special downlead in conjunction with an antenna transformer and set couplers eliminates all noise pick-up from the downlead.

ALL-WAVE MULTIPLE RECEPTION

A system that provides for multiple reception of both long and short waves simultaneously. Its action is automatic.

INSTALLATION

No defacement of buildings is necessary for installation. Can be installed by any radio service man. Detailed installation specifications furnished without cost. Especially adaptable for existing buildings and eliminates all hazards and violations.

Another system, for concealed conduit installation in buildings in the course of construction, available only and exclusively through the Arrow-Hart & Hegeman Electric Co., Hartford, Conn.

GUARANTEE

When installed in accordance with our specifications, reception equal to or better than that obtained with each radio set using its own aerial is guaranteed.

OUTSTANDING FEATURES

1. Multiple system for all-wave reception.
2. Maximum noise reduction.
3. Free engineering service.
4. No upkeep cost; nothing to go wrong; no tubes to burn out; no extra current to consume.
5. Simplicity and neatness.
6. Positive freedom from interaction from receivers in the same building and on the same antenna.
7. Added rental feature and tenant convenience.

Type	List
3085 Antenna Transformer	\$3.00
202E Multicoupler	2.25
TPT TW.P.R. Transmission Line, 1,000 Ft.	24.00

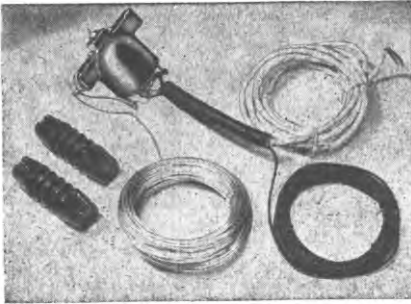
AMY, ACEVES & KING, Inc.
Consulting Engineers - Specialists in Antenna Systems

TACO

ALL-WAVE
SELF-SELECTING

MASTER

ANTENNA
SYSTEM



TACO MASTER ROOF KIT

*Cat. No. 340—For 1-25 outlets..... \$6.00

Consisting of:

- | | |
|--|---|
| 1 Transformer Unit (341) | 1 Sleeving 100-ft. 7/20 tinned copper aerial wire |
| 1 15-ft. coil transmission cable (305) | 1 25-ft. coil ground wire |
| 2 4" Navy Insulators | |

TACO HOME ROOF KIT

For a small apartment house or an individual home where a span of 65 feet is available. The antenna may be fully concealed in attic for maximum neatness of installation.

*Cat. No. 342—For 1-8 outlets..... \$6.00

Consisting of:

- | | |
|--|--|
| 1 Transformer Unit (341) | 2 50-ft. coils No. 14 tinned aerial wire |
| 1 15-ft. coil transmission cable (305) | 1 25-ft. coil ground wire |
| | 2 4" Navy Insulators |

*No. 341—Transformer Unit only, incorporating the Underwriter's approved Lightning Arrestor..... \$3.00

The sensible and economical solution of the radio problem facing apartment houses, hotels, club houses, hospitals or private homes. One efficient aerial and transmission line carried down inconspicuously outside of building serves up to 25 sets. Each set connected through a coupler to the aerial. Eliminates usual jungle of unsightly poles, aerials and downleads constituting menace to life and property as well as an unsightly mess.

EFFICIENCY—TACO Master Antenna provides excellent broadcast, amateur and short-wave reception with modern all-wave sets. Matches all sets. Minimum background noise. The system covers all bands including the new FM band by the use of the proper coupler.

SIMPLICITY—All mysteries taken out of

installation work. Components available through the distributor in kit form. The Foundation Kit contains all parts necessary for the roof installation. Erect the TACO aerial as high as possible for best results and follow the instructions given in the specification booklet for a durable, successful installation. If additional information is desired we will gladly assist.

LOW COST—As inexpensive as efficient. Inconspicuous neutral tone transmission cable and neat exposed wiring outlets permit wiring any existing building. No objectionable wires. Nothing to mar inside or outside walls.

SPECIFICATION DATA—Complete specification data available in printed form giving full details both for layout as well as cost estimating.

RECEIVER COUPLERS

The choice of Coupler depends on the frequency bands to be covered, the space available and the preference in Coupler finish. If only the Broadcast and S-W bands are required either Coupler may be used. If the new FM band is also desired use No. 343 Coupler.



*No. 343 Coupler, FM and AM bands, for exposed wiring..... \$2.50



*No. 344 Coupler, for exposed wiring..... \$2.00

Coupler finished in baked IVORY. Bakelite terminal panel with screw posts for easy connections to radio set. Single hole mounting.

Small, Neat, Finished in satin aluminum. Bakelite terminal panel with ANT. & GND. screw posts for radio set connections.

ESSENTIAL TACO WIRING PARTS

Cat. No. 304—Aerial Wire 7/20 Tinned Copper Wire, per 80 ft. \$1.75

Cat. No. 305—Transmission Line No. 18 Twisted-Pair Neutral Buffer-Covered, per 500-ft. roll..... 15.00

Cat. No. 306—Transmission Line No. 18 Twisted-Pair Black-Covered, per 500-ft. roll..... 15.00

Cat. No. 307—Solid knobs, white or brown, for supporting transmission cable. 100 to a carton. Per carton..... 3.20

Cat. No. 309—Double Lightning Arrestor, Underwriters Approved..... .50

Cat. No. 319—Heavy Duty, low-loss glazed porcelain insulators, 4" long, each..... .15

Cat. No. 330—Bracket for mounting Antenna Transformer..... .75

Cat. No. 186—Mast Bracket, for mounting 1" pipe mast. Complete with lag bolts, expansion shields, U-bolts, per pair..... 3.00

TELEVISION AND FREQUENCY-MODULATION ANTENNAE

For the sure interception of F-M signals, a di-pole antenna similar to a television antenna is recommended. The installation of an F-M antenna is comparatively simple as reflections do not as a rule cause any noticeable interference with the reception.

For this reason, Reflectors are not required except in rare instances. However, the majority of the F-M receivers are also equipped for the reception of amplitude-modulated signals and therefore a transformer system is incorporated in some of our models to assure noise-free reception in the standard broadcast and short-wave bands.

The short rigid di-pole has the advantage over the longer wire antennae mentioned on the front page of this catalog in that it can more readily be erected much higher. A single mast is all that is required. It also has the advantage of being easily directed to intercept the favorite stations. With a long-wire antenna this cannot readily be accomplished, often resulting in a low signal strength on some weak station. Always erect the antenna as high as possible for best results.

The choice of the Antenna and the Transmission Line depends on the signal level in the area. If signal strength is low, use a rigid di-pole type antenna. If the length of the transmission line is over 60 ft. use the special No. 336 U-H-F transmission line.

TELEVISION ANTENNAE

For the selection of the most suitable television antenna-reflector combination and for

full detailed installation instructions see our special television catalog sheet.

No. 425—Featherweight Television Antenna complete with universal mounting brackets and 60-ft. transmission line..... \$7.50

No. 450—Featherweight Television Reflector for No. 425 or 426 Antenna, complete with crossarm..... 7.50

No. 428—Double Di-pole Television Antenna complete with Reflectors and 60 ft. No. 152 transmission line..... 28.00

No. 429—Same as above except using 60-ft. No. 336 special high frequency transmission line..... 29.25

FM AND TELEVISION STORE DEMONSTRATION SYSTEM

The TACO Store Demonstration Antenna handles all wave bands from the Standard Broadcast band to the U-H-F FM bands with one antenna without any interaction between the sets. Full noise-reduction for all bands. No switching or fussing with connections after the set is once connected to the system. Each set requires its own No. 343 Master Coupler and six to eight sets may be operated from one antenna.

*No. 481-FM — Di-pole Antenna, with No. 480 Transformer, 8-ft. mast, less wire..... \$11.75

*No. 343 — Master Coupler, one used for each set connected to the system, each..... 2.50

F-M ANTENNA SYSTEMS

*No. 476-FM—Rigid di-pole Antenna using No. 480 and No. 218-FM transformers for coverage of broadcast and short wave bands in addition to the FM band. Complete with 60-ft. No. 152 transmission line..... 12.50

*No. 486-FM—Same as above, plus one 8-ft. wooden mast in two sections..... 15.00

*No. 477-FM—Rigid di-pole Antenna, same as No. 476-FM, except using 60-ft. No. 336 U-H-F transmission line..... 13.75

*No. 487-FM—Same as above, plus one 8-ft. wooden mast in two sections..... 16.25

*No. 480—Antenna coupler with mounting bracket..... 3.00

*No. 218-FM — Receiver Coupler, for connection of one additional receiver..... 2.75

*No. 215 FM—Antenna, see front page..... 7.00

*No. 225-FM—Antenna, see front page..... 6.25

ACCESSORIES

No. 185—Television Mast, 10-ft. wood mast in two sections..... 2.50

No. 188—Galvanized 10-ft. iron mast in two sections..... 5.00

No. 186—Pipe Mast bracket, complete with expansion shields, lag bolts and "U" bolts, per pair..... 3.00

No. 152—Transmission line, 500-ft. rolls..... 20.00/M

No. 334—Shielded U-H-F transmission line 500-ft. roll..... 55.00/M

No. 336—Ultra High-Frequency Transmission line, 500 ft. rolls..... 40.00/M

COMBINATIONS AND DETAILS OF FM AND TELEVISION ANTENNAE SHOWN IN SEPARATE CATALOGUE

TACO DeLuxe Self-Selecting Antenna

The function of an efficient antenna is to bring to the receiver a clear signal free from all interference. This problem has taken on new importance with the introduction of the FM super-high-fidelity receivers as the antenna kits now have to cover a much wider frequency range without loss of fidelity. TACO engineers have solved this problem by introducing special iron dust core transformers into the circuits.

Each kit is designed to meet special requirements and each design is based on TACO's long experience in building high fidelity antennae with unexcelled noise reduction. Determine which type kit is needed to cover the range of the set and regardless of the kit selected you will get the finest instrument of its kind to feed the set the strongest and clearest signals even in locations heretofore considered hopeless for radio reception.

*Cat. No. 215 TACO DeLuxe Antenna System. Uses No. 217 Set Transformer. Covers 150 kc - 25 mc

*Cat. No. 215-FM Antenna, covers FM and AM bands. Uses No. 218-FM Set Transformer; 150 kc - 75 mc

*Cat. No. 200-V Antenna, especially designed for the short wave and broadcast bands

*Cat. No. 215L—DeLuxe Antenna, less Set Transformer

*Cat. No. 216—TACO Antenna Transformer only

The array of electrically interconnected transformers automatically select the most efficient path for the signals and assure a perfect match to any radio set. A porcelain shell gives perfect weather-proofing and mechanical protection for the transformers. A 30-ft. - 30 ft. doublet aerial makes this kit easy to erect anywhere.

Separate terminals are available on the No. 218-FM set transformer for connection to the FM binding posts on the receiver.

The DeLuxe Antenna is complete, factory wired, soldered and tested under laboratory conditions, ready to be erected.

TACO DeLuxe Antenna is self-selecting and fully automatic and comparative tests indicate the greatest signal-to-noise ratio of any system on the market. Let your own test substantiate our claim.

*Cat. No. 217—TACO Set Transformer only

*Cat. No. 218-FM Set Transformer. Separate leads for the AM and FM bands



● CONTENTS OF No. 215 KIT ●
No. 216 Antenna Transformer; No. 217 Set Transformer; 2-30 ft. coils Tinned Aerial Wire; 60 ft. Transmission Cable; 1 Screw Eye; 2 Nail Knobs; 2 Porcelain Aerial Insulators; Packed in Display Box with complete instructions.

● CONTENTS OF No. 215-FM KIT ●
Same as above except using No. 218-FM Set Transformer. Separate leads for the FM and AM bands makes this kit adaptable to any type radio receiver.

\$6.75

7.00

7.50

2.50

2.75

For installations where a doublet is difficult to erect, this L-type kit with the transformer attached at one end of a 50-ft. aerial is the ideal solution. It covers the same frequency range as the kit above and has the same type iron core transformers guaranteeing the highest obtainable noise reduction.

Extensively used for homes where the transmission line must be inconspicuously arranged. The construction facilitates the grounding of the transformer unit for maximum noise reduction.

This TACO kit is Self-Selecting and with its durable porcelain shell assures a satisfactory trouble-free installation.

*No. 225 Antenna, using 50-ft. aerial and 60-ft. trans. line. 150 kc - 25 mc. Uses No. 217 Set Transformer

*No. 225-FM Antenna, covers FM and AM bands 150 kc - 75 mc. Uses No. 218-FM Set Transformer

*No. 225L Antenna, less Set Transformer

*No. 226 Antenna Transformer only

*No. 217 Set Transformer only

*No. 218-FM Set Transformer only. Separate leads for the AM and FM bands.

\$6.00

6.25

4.00

2.25

2.50

2.75



Modern all-wave receivers are capable of reproducing the faintest radio signals brought to the receivers but to furnish an enjoyable program the signal must be free of outside interference.

The TACO Standard Antenna is designed to fulfill these requirements for the standard broadcast band as well as for the short-wave bands and the FM band.

This Antenna System with its weather-proof porcelain antenna unit housing matches all sets regardless of make or design. It is fully automatic, selecting the path of maximum efficiency for the different wave-bands. Iron cores assure the maximum signal transfer in all bands.

The simplicity of construction makes an installation possible where very limited space is available. For the best result the antenna proper should be erected on the roof out of the noise area.



TACO No. 515 STANDARD ANTENNA
For the noise-free reception of standard broadcast and short wave bands.

TACO No. 515-FM STANDARD ANTENNA
Covers all bands including the FM band with excellent clarity and fidelity.

● CONTENTS OF No. 515 KIT ●
No. 516 Antenna Transformer; No. 517 Set Transformer; 2-30 ft. coils Aerial Wire; 60 ft. Transmission Cable; 1 Screw Eye; 2 Nail Knobs; 2 TACO Insulators; Attractively boxed complete with instructions.

● CONTENTS OF No. 515-FM KIT ●
Same as above except using No. 518-FM Set Transformer. Separate leads available for the AM and FM bands.

*No. 515 Antenna, 150 kc - 25 mc. Broadcast and short wave bands

*No. 515-FM Antenna, FM and AM bands 150 kc - 75 mc

*No. 515L Antenna, less set transformer

No. 516 Antenna Transformer only

*No. 517 Set Transformer, broadcast and short wave bands only

*No. 518-FM Set Transformer, FM and AM bands, separate leads for FM and AM

\$4.50

5.00

3.50

1.50

1.50

2.00

CAT. No. 400 ALL-WAVE ANTENNA

The importance of a good antenna system for a modern radio set is generally underestimated. It is an integral part of a radio set and must be treated as such. For best results an antenna must be installed with the utmost care and the TACO No. 400 Antenna improves the all-wave reception in all locations.

This antenna is Self-Selecting, same as the higher priced TACO models. Easily erected in a very limited space on the roof. It is fool-proof and trouble-free—once erected—always functioning.

● CONTENTS OF No. 400 KIT ●
No. 401 Transfer Unit; No. 402 Set Transformer; 2 30-ft. Coils Antenna Wire; 50-ft. Coil Transmission Cable; 1 Screw Eye; 2 Nail Knobs; 2 Porcelain Insulators. Attractively boxed with complete instructions.

*Cat. No. 400 Kit

Cat. No. 400L Kit Less Set Coupler

*Cat. No. 402 Set Transformer

\$3.75

\$2.75

1.25





TELESCOPING VERTICAL RADIATORS

Aluminum

Premax Aluminum Antennas are designed to meet the demand for light weight, combined with corrosion resistance and adequate strength to meet the most exacting requirements.

The tubing is special drawn bright finish seamless aluminum, with diameters, gauges and temper engineered to withstand wind velocities up to 60 miles per hour without failure or permanent damage. Guying is not essential under normal conditions, but it is recommended, where possible, as a precaution against unexpected stresses.

Premax Aluminum Antennas are especially recommended for mobile installations, such as pick-up trucks, etc., where light weight, convenience in extending and collapsing, and attractive appearance are important considerations. For the same reason, Premax Aluminum Antennas will be found ideally suited for radio telephone use on fresh water craft or inland locations. For commercial use, for police, fire, forestry and similar installations, or for home receiving antennas, Premax Aluminum designs are convenient, dependable and extremely reasonable in cost.

A group of five different units is available, all fully telescoping and adjustable between the minimum and maximum lengths shown in the table below. The locking device at each joint is of the clutch type, comprising a specially formed hexagon cap nut, engaging a tapered, split compression sleeve. This construction is simple in operation, positive and secure in action, and provides an efficient, low-resistance contact between sections.

In the illustration at the left, the 6-section (20-meter) Antenna is shown, mounted on a Type 1 Base insulator. For insulators and mountings, see pages Q-49 and Q-50.



Monel

Premax Monel Antennas are specially designed for marine and other commercial uses where high strength and unusual resistance to corrosion are essential. This type of antenna will withstand the most severe wind and shock strains and Monel is unaffected by sea air and other corrosive agents. Neither heat nor extremely low temperatures have any effect on the toughness of Monel, or on its ability to stand sudden shocks without failure.

Monel antennas are built up of multiple sections of hard-drawn Monel tubing and are fully telescoping and adjustable within the limits shown in the specifications below. Highly polished, their rich, handsome appearance conforms perfectly with the equipment of even the finest craft, yet their cost is not excessive for the more modest installations when it is considered that they provide indefinite life and operating efficiency.

Firm, rigid contact is secured between the sections by precisely designed clutch-type clamps. These clamps comprise carefully formed knurled sleeves and tapered compression bands which engage the threaded and accurately machined edges of the tubular sections of the antenna.

One of the more popular methods of installation is shown at the left, where you see a five-section (20-meter) Monel antenna mounted on a Type 1 Base Mounting. This may be varied in marine installations by employing a Type 6 mounting (shown on page Q-49). Additional support is suggested, either by adequate guying or by the use of the deck bushing insulator, or any of the various stand-off insulators which are shown on another page.

Monel is undoubtedly the perfect material for radio antennas, for it is the most important of the nickel-copper alloys, and is more resistant to corrosion and strain than either of these principal constituents.



ANTENNA SPECIFICATIONS AND PRICES

No.	Sec.	Ext'd. Length	Col. Lth.	Base O. D.	Top O. D.	Base I. D.	Weight Each	Price Each
AM-312	2	12' 2 1/2"	6'3"	.500"	.320"	.334"	1 1/2 lbs.	\$ 4.50
AM-518	3	18' 1/2"	6'3"	.750"	.320"	.584"	3 lbs.	8.25
AM-124	4	23' 8 1/2"	6'3"	1.000"	.320"	.810"	5 lbs.	12.75
AM-230	5	29' 2"	6'3"	1.312"	.320"	1.112"	7 1/2 lbs.	18.75
AM-336	6	34' 8"	6'3"	1.625"	.320"	1.425"	11 lbs.	27.00

ANTENNA SPECIFICATIONS AND PRICES

No.	Sec.	Ext'd. Length	Col. Lth.	Base O. D.	Top O. D.	Base I. D.	Weight Each	Price Each
MM-213	2	13' 1"	6'9"	.625"	.489"	.555"	2 3/4 lbs.	\$25.50
MM-119	3	19' 1 1/2"	6'9"	.750"	.489"	.666"	5 lbs.	36.00
MM-225	4	24' 10 1/2"	6'9"	.875"	.489"	.777"	8 lbs.	48.00
MM-330	5	30' 0"	6'9"	1.063"	.489"	.835"	13 lbs.	63.00
MM-335	5	35' 0 1/2"	7'8"	1.063"	.489"	.835"	15 lbs.	69.00

Steel

VERTICAL TYPE

Premax Tubular Steel Antennas, already in wide use for vertical radiators, home receiving antennas and countless public and commercial installations, have earned an envious reputation for dependable, efficient performance under most severe conditions.

Made of a special high-tensile, copper-nickel steel tubing, heavily plated in bright cadmium, they are not only highly resistant to corrosion but extremely strong, both in material and design. Diameters and wall thicknesses have been developed to provide ample strength against all ordinary stresses in the services to which they are adapted. While no guarantee can be offered against abnormal wind strains above 60 miles per hour, or extreme conditions encountered in heavy sleet storms, many actual instances have been reported of Premax Steel Radiators which have weathered such punishment with perfect performance. Guying, while not imperative, is suggested as a reasonable precaution where possible.

Premax Steel Antennas are available in a range of sizes as listed below for many different amateur and commercial services, including the double extended zepp antenna and the fixed beam. All units are fully telescoping and adjustable between the minimum and maximum lengths shown below. The Premax Locking Clamp used on all steel antennas is simple in construction and makes a perfect rigid contact between the sections without the use of set screws or other crushing methods of locking. Tightening the thumb nut exerts an even pressure around the entire circumference of the tubular sections.

The illustration at the left shows the six-section (20-meter) steel antenna mounted on a Type 1 base mounting (shown on page Q-49).



ANTENNA SPECIFICATIONS AND PRICES

No.	Sec.	Ext. Lth.	Col. Lth.	Base O. D.	Top O. D.	Base I. D.	Wght. Each	Price Each
112-M	2	11'8"	6'1"	.656"	.500"	.556"	4 lbs.	\$3.00
318-M	3	17'3"	6'2"	.875"	.500"	.775"	7 lbs.	4.50
224-M	4	22'9"	6'3"	1.063"	.500"	.963"	11 lbs.	6.00
130-M	5	28'3"	6'4"	1.250"	.500"	1.150"	15 lbs.	7.50
136-M	6	33'9"	6'5"	1.500"	.500"	1.400"	20 lbs.	9.00

Steel

CORULITE TYPE

Premax new type Corulite Elements offer a series of light-weight, tubular units, fully adjustable, which are designed for efficient performance in horizontal and vertical arrays and similar applications where extreme strength and rigidity combined with low cost are important factors.

The well-known Corulite type of steel tubing (developed by Premax and amply recommended by its many imitations) has been retained because no other form of metal structure has ever been provided which possesses its unusual stiffness and strength in combination with light wall thickness and consequent low weight—all highly desirable features in building the newer arrays. A new type of positive clamp has been employed, and all units are heavily plated in bright cadmium.

To make adjustment and tuning easier, the new Premax "Hairpin" Tuning Bar is furnished with each pair of units. This "Hairpin" permits all of the elements to be set at a single physical length and the variations in their electrical lengths secured through a slight adjustment of the "Hairpin."

The new Premax Corulite Units, shown in detail below, are fully telescoping (except unit No. 104-M) and are adjustable between the maximum and minimum lengths shown. They meet all requirements for the new type 5 to 20-meter arrays, and will be found ideal equipment for the experimenter on new combinations in the amateur, television and F. M. bands.



ANTENNA SPECIFICATIONS AND PRICES

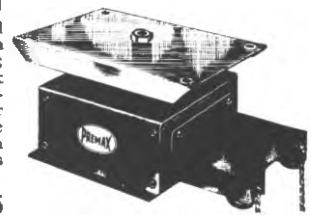
No.	Sec.	Ext. Lth.	Col. Lth.	Base O. D.	Top O. D.	Weight Per Pair	Price Per Pr.
104-M	1	4'0"	4'0"	5/8"	5/8"	1 lb.	\$1.50
108-M	2	8'2"	4'7"	5/8"	5/8"	2 lbs.	3.30
113-M	3	12'4"	4'8"	5/8"	5/8"	3 1/2 lbs.	5.40
618-M	4	17'0"	5'3"	1"	5/8"	5 1/2 lbs.	7.50

Premax Corulite Elements are sold only in pairs, as listed and are packed complete with the new Premax "Hairpin" Tuning Bar. For Insulators and Mountings see Pages Q-49 and Q-50.

PREMAX ROTOMOUNT

Made of heavy gauge steel throughout; reinforced platform mounted on ball bearings; hollow steel shaft to permit center lead-ins; full 360° revolution; arranged for vertical or horizontal pull. Platform size 9 x 12 inches. Equipped with extra heavy copper cable leads but no ropes.

No. BM-10A Hand operated. Weight 35 lbs. NET \$15.00



BASE INSULATOR TYPE 1



Lapp design heavy-duty footing or base insulator for Premax vertical antennas. Heavy, wet-process, brown-glaze porcelain cones held in compression between hot-galvanized malleable iron castings which form the base support. Tested compression rating up to 10,000 lbs. and will support 35' vertical under ordinary wind stresses without use of guys or other supports. Height to top 7"; bolt circle 5 1/4"; weight 7 lbs. Complete with mounting bolts and nuts.

SPECIFICATIONS AND PRICES

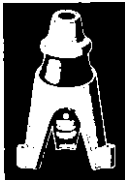
New Number	Old Number	Diameter Top Post	Fits Antennas	Price Each
1P-24*	136-L	3/4"	318M—MM225	\$9.00
1P-26	New	1 1/16"	AM124—MM330—MM335	9.00
1P-30	New	1 1/16"	224M	9.00
1P-44*	136-P	1 3/8"	136M—AM336	9.00

*Used with Adapters to fit other sizes of masts. See Adapters.

BASE INSULATOR TYPE 1-X

This base mounting is designed for use as a footing insulator on square or triangular towers which may be bolted to the top cap by standard 3/4-16 cap screw. The construction is identical with that of the Type 1 described above except that the top post has been omitted and the top cap tapped with 3/4" No. 16 thread. Furnished complete with base bolts and nuts but without cap screw.

No. 1-X, galvanized. Weight 7 pounds. NET. \$9.00.



BASE INSULATOR TYPE 2

A light design base insulator suitable for vertical antennas up to 18' height or with greater lengths if properly guyed or supported with stand-off mountings. Of brown glaze porcelain with top post and base support cemented in insulator. Metal parts galvanized. Porcelain diameter 3 1/4"; height to top of porcelain 6"; flange diameter 3 1/4"; weight 4 lbs. Furnished complete with the necessary mounting bolts and nuts.



SPECIFICATIONS AND PRICES

New No.	Old No.	Dia. Top Post	Fits Antennas	Price Each
2P-24	318-P	3/4"	318M—MM225	\$3.00

Used with Adapters to fit other sizes of masts. See Adapters.

BASE INSULATOR TYPE 6

Type 6 Base Insulator will be recognized as the most practical unit available for mounting vertical antennas on shipboard, or on rooftops, tower platforms, mobile trucks, etc. In general construction it is similar to Type 1 with the same general characteristics. Simple to install, neat in appearance. The lead-through design avoids necessity for extra holes, lead-in bushings, etc. Flanges 6" diameter with 6 bolt holes on 5" circle. Center stud suited for decks 1/2" to 3" thick. Total height above deck 4 1/2". Weight 11 1/2 lbs. Available in hot-galvanized or solid bronze with exposed bronze portions polished.



SPECIFICATIONS AND PRICES

No.	Diameter Top Post	Fits Antennas	Price Each Galv.	Price Each Bronze
6P-24*	3/4"	318M—MM225	\$12.75	\$22.50
6P-26	1 1/16"	AM124—MM330—MM335	12.75	22.50
6P-30	1 1/16"	224M	12.75	22.50
6P-44*	1 3/8"	136M—AM336	12.75	22.50

*Used with Adapters to fit other sizes of masts. See Adapters.

ADAPTERS

Short lengths of cadmium plated steel tubing fitted with connection clamp, to permit use of standard Type 1, Type 2 or Type 6 Base Insulators with other sizes of tubular masts.

Used With

No.	Insulator No.	To Fit Antennas	Wt. Each	Price Each
A-20	1P24-2P24-6P24	MM-213 or any 5/8" O.D. tube	1/2 lb.	\$0.30
A-21	1P24-2P24-6P24	112-M or any 2 1/2" O.D. tube	1/2 lb.	0.30
A-24	1P24-2P24-6P24	AM-518-MM-119 or any 3/4" O.D. tube	1/2 lb.	0.30
A-40	1P44-6P44	130-M or any 1 1/4" O.D. tube	3/4 lb.	0.30
A-42	1P44-6P44	AM-230 or any 1 3/8" O.D. tube	3/4 lb.	0.30

DECK BUSHING

Brown-glazed porcelain bushing cemented into hot galvanized malleable flange which bolts through a rubber gasket to the deck or other surface. Provides additional support for antenna in lieu of guying.



New No.	Old No.	I. D.	Total Length	Above Deck	Flange Diam.	Weight Each	Price Each
5D24	New	3/4"	6"	3"	4"	2 lbs.	\$4.50
5D40	125-D	1 1/4"	8"	4 1/2"	4 1/2"	3 1/2 lbs.	6.00
5D56	New	1 3/4"	8 1/2"	4 1/2"	5 3/8"	4 1/2 lbs.	7.50

WALL BRACKET WB-1



Premax Wall Bracket No. WB-1. A heavy steel bracket designed for mounting Vertical Radiators on side walls, parapets or posts. Drilled to fit Premax Type 1 and Type 2 insulators. Cadmium plated. Stand-off Type 3 suggested for use with this mounting. Weight 7 pounds. Price, without insulator NET. \$2.25

WALL MOUNT INSULATOR 2-WP

Premax Wall-Mount Insulator No. 2-WP. A firm, serviceable side-mounting which fastens securely to wall or post. Equipped with brown-glaze porcelain insulator similar to Type 2. Metal parts are hot galvanized for protection against weather. Stand-off Insulator Type 3 suggested for use with this mounting. Weight 5 pounds. Price, NET \$4.50



STAND-OFF INSULATORS TYPES 3, 4

Type 3, shown at Left. A heavy duty design for stand-off support of vertical antennas, etc., or may be used in pairs as complete mounting of vertical or horizontal elements.

Galvanized or brass fittings attached to threaded studs cemented in brown-glazed porcelain 3" diameter. Height to top of porcelain 3". Weight each, 2 lbs.

Type 4, shown at Right. Design similar to Type 3 but with double clamp.

Top clamp sizes available in same range as Type 3, above. Bottom clamp made to fit standard pipe sizes from 1/4" to 3". Galvanized or Polished Brass. Prices on request.



Type No.	Old No.	Fits Tube O. D.	Galvanized	Price Each	Polished Brass
3S16	New	1 1/2"	\$3.00		\$4.50
3S20	New	5/8"	3.00		4.50
3S24	New	3/4"	3.00		4.50
3S28	78-S	7/8"	3.00		4.50
3S32	New	1"	3.00		4.50
3S34	New	1 1/8"	3.00		4.50
3S40	New	1 1/4"	3.00		4.50
3S42	New	1 3/8"	3.00		4.50
3S48	150-S	1 1/2"	3.00		4.50
3S52	New	1 3/8"	3.00		4.50

STAND-OFF INSULATOR TYPE 7

A low-priced but substantial stand-off mounting with wide application. Galvanized malleable iron frame enclosing white porcelain split bushing. Height 6"—weight, each 2 1/2 lbs.



No.	Fits Tube O.D.	Price Each
7S20	5/8"	\$1.50
7S24	3/4"	1.50
7S28	7/8"	1.50
7S32	1"	1.50

Other sizes available to order.

INSULATED MOUNTING CLAMP TYPE 9

A simpler, more compact mounting for horizontal elements, etc., as suggested for Type 8.

Grey iron galvanized frame with white split porcelain bushing. Height to center 2". Weight each 1 pound.



No.	Fits Tube O.D.	Price Each
9C-20	5/8"	\$0.75
9C-24	3/4"	0.75
9C-28	7/8"	0.75
9C-32	1"	0.75

Other sizes available to order.

INSULATED MOUNTING CLAMP TYPE 8

Insulated Mounting Clamp—Type 8—A better-than-ordinary insulated mounting support for horizontal elements or for verticals in many of the new arrays.

Galvanized malleable iron frame with white porcelain split bushing. Overall width 3 1/2". Weight, each, 1 lb.



No.	Fits Tube O.D.	Price Each
8C-20	5/8"	\$0.90
8C-24	3/4"	0.90
8C-28	7/8"	0.90
8C-32	1"	0.90

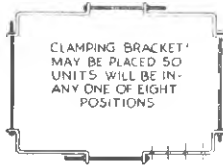
Other sizes available to order.

PREMAX

INSULATORS AND ACCESSORIES

CHIMNEY BRACKET

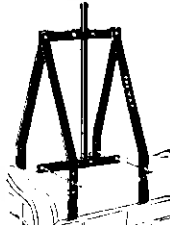
No. CB-1—Premax Chimney Mounting Bracket No. CB-1. A heavy steel, cadmium plated bracket which fits all chimneys from 18" to 24" square, for H-Q Antenna or for other verticals or masts. Weight 14 pounds (set of two). Price: NET.....\$3.90.
No. CBF—Extra 20 inch threaded rods for larger chimneys. Price each: NET.....\$0.15



PARAPET SUPPORT

Premax Parapet Support No. PS-18 supports masts or radiators on fire wall or parapet. Used with Hi-Q Antenna by addition of extra clamps No. PSC, or as shown for a single mast or radiator. Price each.....\$2.70

No. PSC. Extra clamps to fit Hi-Q installation on Parapet Support, No. PS-18. Per set: NET.....\$0.40



WOOD TOWERS

An extremely satisfactory, yet economical mounting for horizontal arrays, extended zepps and verticals—strong and light weight construction which will withstand weather strains to fullest expectations. 10' high, 24" square at base, 9" square at top. Corner posts of 1 3/8" well seasoned timber, with lighter weight horizontal and diagonal cross bracing for perfect rigidity and maximum strength. All parts cut exact length and drilled for bolts—each piece has two coats weather-resistant paint. Shipped knockdown, with all necessary cadmium-plated bolts, washers and nuts. Weight 40 lbs. Price.....\$13.50

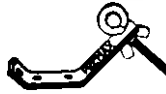
TENSION INSULATOR

Premax Tension Insulator—No. TI-1. White porcelain insulator with stiff coil spring attached. Provides tension in light guy lines, with adequate insulation. Price each: NET.....\$0.06



ADJUSTABLE GUY ANCHOR

Adjustable Guy Anchor—No. GA-1. Strong, simple anchor for guys or aerial. Rust-proof steel. Eyebolt and wing nut make tightening easy. Each: NET....\$0.09



BRONZE MOUNTING CLAMP

Formed bronze clips or clamps for mounting elements or vertical antennas on standard stand-off insulators. Also used for connecting feed wire and transmission lines to antenna elements. 3/8" wide. Cadmium plated. No. 218C fits 1" tube. No. 418C fits 1/2" tube. Price, per pair.....\$0.15



GROUND RODS

CADMIUM PLATED GROUND RODS

Size	Style D		Style G		Weight	Net
	Spring Clamp	Screw Clamp	Spring Clamp	Screw Clamp		
4' by 3/8"	No. CD-4	No. CG-4	No. CD-4	No. CG-4	1.6 lbs.	24c
5' by 3/8"	No. CD-5	No. CG-5	No. CD-5	No. CG-5	2.0 lbs.	33c
6' by 3/8"	No. CD-6	No. CG-6	No. CD-6	No. CG-6	2.4 lbs.	39c

COPPER PLATED GROUND RODS

Size	Style D		Style G		Weight	Net
	Spring Clamp	Screw Clamp	Spring Clamp	Screw Clamp		
4' by 3/8"	No. RD-4	No. RG-4	No. RD-4	No. RG-4	1.6 lbs.	24c
5' by 3/8"	No. RD-5	No. RG-5	No. RD-5	No. RG-5	2.0 lbs.	33c
6' by 3/8"	No. RD-6	No. RG-6	No. RD-6	No. RG-6	2.4 lbs.	39c

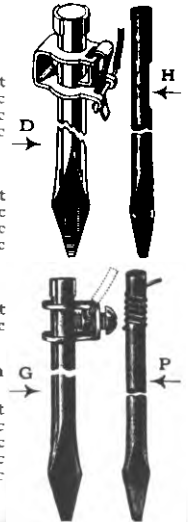
COPPER-HEADED GROUND RODS

Size	Style D		Style G		Weight	Net
	Spring Clamp	Screw Clamp	Spring Clamp	Screw Clamp		
4' by 3/8"	No. SD-4	No. SG-4	No. SD-4	No. SG-4	1.6 lbs.	22c

HEAVY DUTY GROUND RODS

Size	Style G Screw Clamp—Copper or Cadmium Plated		Weight	Net
	Copper Plated	Cadmium Plated		
5' by 1/2"	No. RG-85	No. CG-85	3.4 lbs.	48c
6' by 1/2"	No. RG-86	No. CG-86	4.0 lbs.	54c
7' by 1/2"	No. RG-87	No. CG-87	4.7 lbs.	63c
8' by 1/2"	No. RG-88	No. CG-88	5.4 lbs.	75c

Electrical Rods, Style H or P
1/2" or 3/8" diameter, quoted on request



PREMAX

POLICE ANTENNA—Receiving and Sending

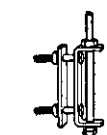
Premax Automobile Antennas for police and other commercial applications are designed for rough, hard usage coupled with efficient, dependable performance, being of solid steel of an extremely high carbon content, heat treated and oil-tempered. Rods of varying diameters, cold drawn, are joined securely into a single, graduated length which provides high flexibility, minimum wind resistance, and indefinite life. Bright cadmium plate offers almost unlimited resistance to corrosion in all inland and salt water areas. Rods are also available in stainless steel. Style A has plain end; Style B has a threaded 7/8" stud permanently attached to the rod.

SPECIFICATIONS—RODS ONLY, LESS MOUNTING

CADMIUM PLATED				STAINLESS				
Style A		Style B		Style A		Style B		
Lth.	No.	Price	No.	Price	No.	Price	No.	Price
72"	AC-172	\$1.50	BC-172	\$1.80	AS-172	\$3.30	BS-172	\$3.60
78"	AC-178	1.65	BC-178	1.95	AS-178	3.60	BS-178	3.90
84"	AC-184	1.80	BC-184	2.10	AS-184	3.90	BS-184	4.20
90"	AC-190	1.95	BC-190	2.25	AS-190	4.20	BS-190	4.50
96"	AC-196	2.10	BC-196	2.40	AS-196	4.50	BS-196	4.80

SPECIFICATIONS AND PRICES—Mountings Only

Type	Fits Antenna	Price
G	Style B	\$0.90
N	Style B	2.55
K	Style A	3.75
L	Style A	6.00
R	Style A	9.00



Type G Grounded Bumper Mount—fits Style B antenna.



Type L Adjustable Mount—fits Style A antenna.



Type N Insulated Bumper Mount—fits Style B antenna.



Type K Adjustable Mount—fits Style A antenna.



Type R Universal Adjustable Mount—fits Style A antenna.

RECEIVING ONLY

Model AA-146. Practical, strongly designed well-insulated receiving antenna, exactly suited to the hard service most police equipment undergoes. The rod itself is of the single unit, non-adjustable, tapered design. The high carbon, oil-tempered, solid steel will withstand all manner of stresses and strains which would ruin ordinary aerials but which leave no impression on the Premax rod.

The insulators are genuine high-tension white glazed ceramic cones, securely held in place on the rod and hinge bracket by nuts and lock washers. Hinge bracket attaches readily to car under pin on door hinge. Length overall 46 inches. All metal parts heavily plated in bright cadmium. Other types of mountings also available.

No. AA-146—\$1.50

PREMAX PRODUCTS, DIVISION CHISHOLM-RYDER CO., INC., NIAGARA FALLS, N. Y.



RADIO INSULATORS

for

BETTER RECEPTION · BETTER PROTECTION · BETTER TRANSMISSION

The isolation of radio frequency currents and their confinement within definite circuits demand the use of non-conducting materials possessing an unusual combination of electrical and physical characteristics. Radio frequency currents tend to leak over to adjacent conductors, and materials which may offer a fairly effective barrier to the passage of currents of low frequency sometimes prove to be conductors, or at least inefficient insulators, at radio frequencies.

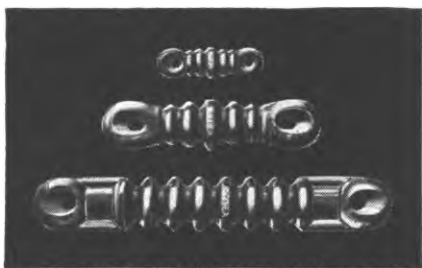
Essential properties for satisfactory radio insulation are low power loss, low surface conductivity, high electrical resistance, a hard smooth surface, stability against corrosive influences, and a high strength-to-weight ratio. These properties must remain permanent and unchanged by age, exposure to the elements, and the continued impact of radio energy.

Performance, which alone has won for PYREX Radio Insulators their present day supremacy, is the direct result of the inherent properties of the glass composition from which they are made. PYREX Radio Insulators are made of a material whose dielectric constant is 4.7 at 740,000 cycles, and whose power factor is 0.42% at 740,000 cycles. The surface conductivity is so low as to be practically negligible. The specific gravity is 2.23, so that in PYREX Radio Insulators the dual advantages of light weight and high electrical strength are combined.

The stability of PYREX Radio Insulators against corrosive influences renders them immune to the attack of acid fumes, smoke, fog and salt sprays. For this last reason, PYREX Insulators are widely used for marine communication systems.

PYREX Radio Insulators, because of their coefficient of expansion of 0.0000032 between 19 deg. C. and 350 deg. C., are indifferent to heat shock and abrupt temperature changes. Tropical sunshine does not create strains within them. The sudden chill of a summer hailstorm does not affect them.

PYREX Insulators have played their part in many spectacular examples of extreme service. They have been with Commander Byrd at the North and South Poles. They were an important part of the radio equipment of the Louise A. Boyd and the MacGregor Arctic expeditions. The Atlantic Ice Patrol sends warnings of icebergs over antennae equipped with PYREX Radio Insulators. They are used by the United States Army Signal Corps, the Coast Guard, the Navy, and the Lighthouse Service. On your own equipment they will perform the same duties and provide the same unflinching service.



Top 67007—Center 67017—Bottom 67021

PYREX ANTENNA INSULATORS

For Superior Sending and Reception. For Longer Life and Trouble-Free Service.

No.	Description	Length Over-all	Developed Leakage Path	Average Flashover Value (KV)		Minimum Ultimate Strength	Price Each, List
				Wet	Dry		
67007	Broadcast Reception Insulator	3 3/8"	2 3/16"	28	42	300 lbs.	\$.25
67017	Amateur Transmitting Insulator	7 1/2"	6 1/8"	54	70	800 lbs.	1.00
67021	Strain Insulator	12 1/4"	11 1/8"	87	121	1000 lbs.	3.00
67003	Galvanized Shackles for installing 67017 or 67021; one pair per insulator; price per pair						1.00

PYREX ENTERING INSULATORS



67104-67105



67115-67116



67079



67080

Amateur Type

Here are practical, convenient lead-in Insulators designed specifically for amateur use. The bowls are made of PYREX brand Electrical Glass which possesses high dielectric strength and low power loss. They will give clearer signals and better operation, particularly under adverse conditions. The flanges on these bowls are wide and flat, bringing a large enough surface in contact with the wall to minimize slipping. The ruggedness of the bowls together with the rubber gaskets permits a water-tight, permanent installation. The rods are threaded except for 2 1/2" in the center. All sizes are supplied with four brass jamb nuts, two brass washers, two rubber washers and two rubber gaskets.

No.	Bowl	Length Center Pin	Outside Diameter	Price Each, List
67104	67056	15" 15"	2 1/2" 6 1/8"	\$2.20 3.50
67105	67056	20" 15"	2 1/2" 6 1/8"	2.30 3.60
67115	67009	15" 15"	6 1/16" 2 1/8"	3.50 4.20
67116	67009	20" 15"	6 1/16" 2 1/8"	3.60 4.20

Airplane Type

- 67056—Glass Bowl only, clear or opaque.*
- 67075—Two 67056 Bowls with Brass Fittings but no guides. Has solid brass rod 1/2" diameter, 5 1/4" long.
- 67079—Two 67056 Bowls with Brass Fittings and guides, as illustrated. Has hollow brass rod 3/8" diameter, 5 1/2" long.
- 67080—One 67056 Bowl with Brass Fittings, as illustrated.

No.	Outside Diameter	Over-all Length	Price Each, List
67056	2 1/2"	1 5/8"	\$.60
67075	2 1/2"	5 3/4"	3.00
67079	2 1/2"	6 3/4"	4.50
67080	3 1/4"	4"	3.50

*Opaque bowls can be furnished at extra cost.



Navy Type — Bowls Only

No.	Glass	Outside Height Over-all at Base	Price Each, List
67009	Clear or opaque*	4 3/8" 6 1/8"	\$1.00
67037	Clear or opaque*	4 3/8" 6 1/8"	1.00

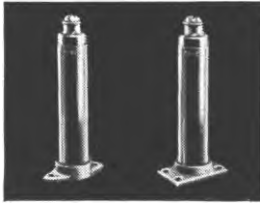
* Opaque bowls can be furnished at extra cost.



RADIO INSULATORS

for

BETTER RECEPTION • BETTER PROTECTION • BETTER TRANSMISSION



67106-67107 67108-67109



67027

PYREX STANDOFF INSULATORS

No.	Height Over-all	Type of Base	Size of Base	Diameter of Glass Part	Developed Leakage Path	Average Flashover Value (KV)		Price Each, List
						Wet	Dry	
67106	3"	Oval	3 1/8" x 1 1/16"	1 1/4"	1 7/8"	13.5	22.5	\$2.25
67107	7"	Oval	3 1/8" x 1 1/16"	1 1/4"	5 1/8"	32.5	58.0	2.50
67108	3"	Rectangular	2 3/8" x 1 1/16"	1 1/4"	1 6/8"	13.5	22.5	2.25
67109	7"	Rectangular	2 3/8" x 1 1/16"	1 1/4"	5 1/8"	32.5	58.0	2.50
67027	12 1/4"	Round	4 3/8" diameter	2 1/2"	10 1/2"	73.0	96.5	7.00

All types are furnished with cap screw and washer, and brass wood screws for fastening base.

PYREX ENTERING INSULATORS

Navy Type



B-67071

Both types have flanges 8 3/4" in diameter with six 1/2" studs equidistantly spaced on 7 3/4" bolt circle and are approximately 6" high from bottom of lower flange to top of center pin. Center pin is 3/8" in diameter with 16 threads per inch at the ends.

Style B has studs 1 1/8" long and in the bottom flange three equidistantly spaced countersunk 3/32" holes on 7 3/4" center circle.

Style C is furnished with a template ring 1/8" thick for locating mounting holes for the 2 3/8" studs. This template can also be used as a backing ring or washer.

Both styles have two 3/4" jamb nuts for the lower end of the center pin and Style C has two 1/2" jamb nuts for each stud.

The 11 1/2" center pin is standard for both assemblies but any other length rod can be furnished at extra cost.

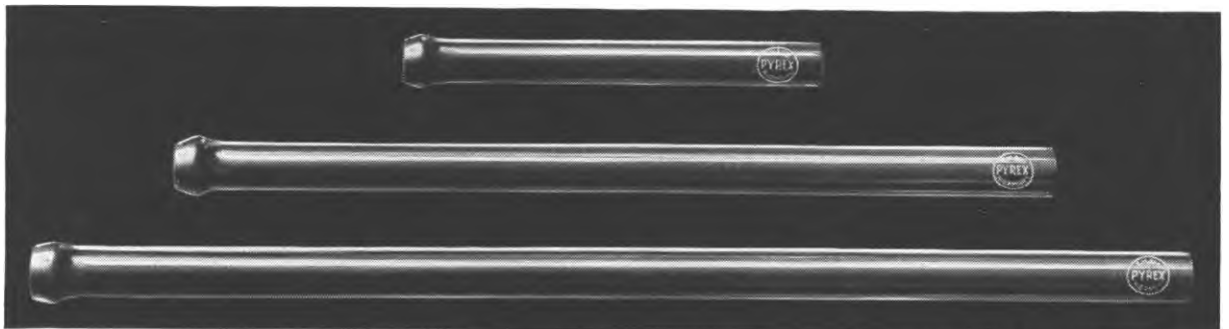


C-67076

No.	Bowl	Glass	Length Center Pin	Outside Diameter at Base	Price Each, List
67071	67037	Clear or opaque*	11 1/2"	8 3/4"	\$20.00
67076	67037	Clear or opaque*	11 1/2"	8 3/4"	21.00

* Opaque bowls can be furnished at extra cost.

PYREX WALL TUBE INSULATORS



No.	Outside Diameter of Tube	Outside Diameter of Knob	Inside Diameter	Length Exclusive of Knob	Over-all Length	Price Each, List
67006	1 1/8"	1 1/2"	3/8"	6"	6 1/2"	\$.25
67012	1 3/8"	1 3/4"	5/8"	12"	12 1/2"	.35
67015	1 7/8"	1 7/8"	1 1/8"	15"	15 1/2"	.40

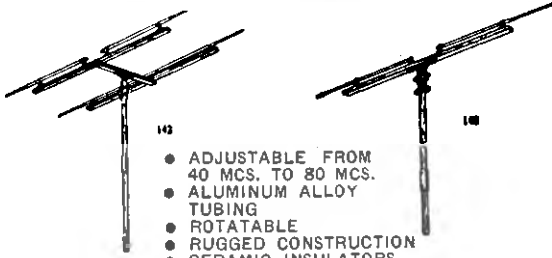
Supplied in three standard sizes, these new PYREX Wall Tube Insulators can also be furnished in other lengths at extra cost. Prices on request.

Birnbach

F-M and TELEVISION ANTENNAS



F-M and TELEVISION DOUBLET ANTENNAS



- ADJUSTABLE FROM 40 MCS. TO 80 MCS.
- ALUMINUM ALLOY TUBING
- ROTABLE
- RUGGED CONSTRUCTION
- CERAMIC INSULATORS

A superior antenna construction for television reception. Consist of corrosion proof aluminum alloy tubes adjustable to all frequencies between 80 mcs. and 40 mcs. mounted on high grade low absorption glazed porcelain standoff insulators which maintains its efficiency under all weather conditions. Strong wooden supports. Adjustments can be made in the horizontal planes. This will permit the antenna to be properly adjusted in respect to the transmitted wave and the signal strength. There are two types available: No. 140 Doublet and the No. 142 Doublet with reflector to eliminate interference. Complete with mounting poles and steel coupling.

No.	List Price
140—Doublet	\$ 9.00
142—Doublet with reflector	17.00

ULTRA HIGH FREQUENCY ANTENNAS (VERTICAL RODS)



They are constructed of hard drawn aluminum alloy tubing, telescoped together and adjusted by forcing down with a turning motion a specially designed brass nickel-plated taper lock bushing. They cover all requirements for stationary or portable use. Two types of mountings are available: stand-off mounting having 1/4" - 20 threaded bushing on No. 154 and 10-32 threaded bushing on No. 157, and binding post mounting consisting of a reinforced flattened end with two holes drilled 1" between centers. The frequency range listed is for 1/4 wavelength antenna.

No.	Sections	Frequency Range in Mcs.		List Price
		Open	Telescoped	
154	3	55	145	\$2.00
155	3	55	145	2.00
156	2	112	200	1.10
157	2	112	200	1.10
161	2	40	75	1.50
164	Taper Lock Bushings 1/8" and 3/8"			.10

MAST AERIAL

The Birnbach Mast Aerial is made of four tempered carbon steel tube sections which will instantly go back to an erect position when flexed by the wind. They make an actual height of 12 ft. and are treated to prevent corrosion. Two heavy duty ceramic mounting insulators permit every type of installation to be made with ease.

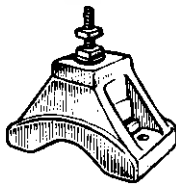
The Safety Lightning Arrester protects the antenna from excessive static charges of atmospheric electricity. The accumulated charges bypasses the receiver and discharges to the ground.

No. 169—Includes: 1 12 ft. 4 section Mast Aerial and Clamps, 2 porcelain mounting insulators and securing clamps, 4 nail knobs; 1 safety lightning arrester; 35 ft. leadin wire; 1-6" insulated screw eye; 1 ground clamp; mounting screws; and directions. List ... \$3.25

No. 170—Includes: Everything contained in the No. 169 with the exception of 1 Safety lightning arrester. List ... \$2.95



BASE INSULATOR



Ideal for replacement and well suited as a base insulator for ultra high frequency antennas as it permits a connection to be at the bottom of the insulator. Made of highly vitrified low absorption glazed porcelain.

No. 146—Base Insulator, Std. Pkg. 10..... List. \$0.40

SEE PAGE Q-58
for complete line of
**TRANSMISSION
CABLE**
suitable for
**FM and
TELEVISION**

ADJUSTABLE DIPOLE ANTENNA

For Television or Frequency Modulation



An adjustable antenna that can be used as a vertical or horizontal doublet. Can be rotated to any angle for any degree of polarization. Impedance at center 72 ohms, matched by EOI Cable. Aluminum alloy tubing permits outdoor mountings. Special tapered lock bushings hold each section in place simply by turning and pushing down. The center mounting insulator is 4 1/2" high.

No.	Frequency Range in Mcs.		List Price
	Open	Telescoped	
158	82	156	\$3.75
160	40	75	4.25

Wooden Mounting Poles

Made of straight grain ash and finished with a weatherproof varnish. With the use of the couplings, several poles can be joined together. The couplings are made of steel tubing and are cadmium plated.



No.	Std. Pkg. List
144—Coupling	10.....\$0.80
145—4 ft. Wooden pole	10..... 75

MOUNTING STRAP



A very useful aid in securing poles of Television or mast antennas to vent pipes. It is made of cadmium plated steel and is 24" long.

No. 626—Mounting Strap	Std. Pkg. 25.....\$25 List
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GUY WIRE

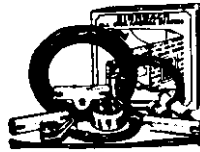
Constructed of high tensile strength galvanized steel wires. Ideal for guying up transmitter and receiver towers and poles.



No. 19—Guy Wire, 25 ft. coll.	each \$25 List
No. 20—Guy Wire, 50 ft. coll.	each .50 List

No. 150 ALL WAVE ANTENNA

An efficient and low cost all wave antenna with noise reducing features. It will give efficient reception on both broadcast and short waves on every type of receiver. It has the newly designed all ceramic transfer unit. With this unit the antenna wire and the transmission line are firmly and securely anchored. There are no wire leads from the transfer unit to collect ice in the winter and to deteriorate in the summer. Comes complete with everything necessary for installation.



LIST OF PARTS

2—30 ft. coils 7/24 Bare Aerial Wire	2—Porcelain Insulators
1—50 ft. coil Stranded Transmission Cable	2—All Wave Lead-In Strips
1—All Wave Coupler	1—Ground Clamp
1—Transfer Unit	2—Glazed Nailit Knobs

No.	Complete Instructions	List Price
150—Birnbach All Wave Antenna	.....	\$3.00
152—Special All Wave Antenna	.....	2.00

No. 148 UNIVERSAL WAVE ANTENNA (FOR EVERY TYPE OF RECEIVER)

The No. 148 All Wave Antenna is the same as the No. 150, but is packed in a special attractive two color box imprinted to customer's specifications. This kit is designed for efficient operation with all types of receivers. Standard cartons of 20 kits.



No.	List Price
148—All Wave Kit with Receiver Coupler	each \$3.00
149—All Wave Kit without Receiver Coupler	each 2.50



Birnbach AERIAL ACCESSORIES

LEADIN STRIPS



Covered with a heavy cotton braid, weather-proofed, with numerous coats of lacquer. The Clips are riveted and soldered at both ends

No.	Lgth.	Std. Pkg.	Each	List Price
611—Black	12"	50		\$0.06 1/2
612—Black	16"	25		.12
613—White	12"	50		.07

DOUBLET LEADIN STRIPS

Two strips held parallel to each other by a piece of bakelite prevents them from moving back and forth. Available in black or white.



No. 2611—Std. pkg. 25. Ea. \$1.15 List

Screw Terminal Leadin Strip



Locks the wire together with the strip in a secure connection assuring perfect contact. Has weather-proof covering over a copper strip with cadmium plated terminals. Available in white or black.

No.	Std. Pkg.	Each	List Price
617—Leadin Strip	50		\$0.10
2617—Doublet Leadin strip	25		.20

COPPER STRAP CLAMP



Will take 3/8" to 2" Pipe. Made of copper with Birnbach clip riveted and soldered to strap. Complete with nut and bolt.

No. 600—Std. pkg. 50. Ea. \$0.06 List

C-CLAMP

Attaches easily to a water or radiator pipe. The cone-pointed screw cuts through and makes positive contact. Cadmium finish prevents rusting.



No. 615—Std. pkg. 25. Ea. \$0.09 List

SADDLE GROUND CLAMPS

These ground clamps have a hard pointed screw which digs through rust and makes a positive contact. Fits a 3/8" to 2" pipe.



No.	Std. Pkg.	Each	List Price
625—Heavy Saddle Clamp	50		\$0.10
630—Light Saddle Clamp	50		.07

SOLID TINNED WIRE

SOFT DRAWN			No. 18		
No. 10	List Price		No. 18	List Price	
1400—25 ft. coil	.60		1416—25 ft. coil	.17 1/2	
1401—50 ft. coil	1.15		1417—50 ft. coil	.30	
1402—100 ft. coil	2.20		1418—100 ft. coil	.55	
1403—1000 ft. spool	22.00		1419—1000 ft. spool	5.50	
No. 12			No. 20		
1404—25 ft. coil	.35		1420—25 ft. coil	.15	
1405—50 ft. coil	.65		1421—50 ft. coil	.25	
1406—100 ft. coil	1.20		1422—100 ft. coil	.50	
1407—1000 ft. spool	12.00		1423—1000 ft. spool	5.00	
No. 14			No. 22		
1408—25 ft. coil	.27 1/2		1424—1/4 lb. spool	.25	
1409—50 ft. coil	.45		1425—1/2 lb. spool	.50	
1410—100 ft. coil	.80		1426—1 lb. spool	.90	
1411—1000 ft. spool	8.00				
No. 16			No. 24		
1412—25 ft. coil	.20		1427—1/4 lb. spool	.27 1/2	
1413—50 ft. coil	.35		1428—1/2 lb. spool	.52 1/2	
1414—100 ft. coil	.60		1429—1 lb. spool	.95	
1415—1000 ft. spool	6.00				
No. 18			No. 26		
1416—25 ft. coil	.17 1/2		1430—1/4 lb. spool	.30	
1417—50 ft. coil	.30		1431—1/2 lb. spool	.55	
1418—100 ft. coil	.55		1432—1 lb. spool	1.00	

GLASS INSULATORS



Made of crystal clear glass and have a smooth surface which prevents dirt or leo to collect.

No.	Std. Pkg.	List Price
00—3"	100	\$5.00
660—3 1/2"	100	7.50
661—3 3/4"	100	8.00
662—3 5/8"	100	8.50
659—4 1/2"	100	13.00

PORCELAIN INSULATORS AND NAIL-IT KNOBS



No. Insulators	Std. Pkg.	List Price
666—Brown or White	100	\$4.00
669—Glazed Nail-It Knobs	100	3.50

GROUND RODS



The Ground Rod when driven into the ground will afford a highly efficient ground.

No.	Std. Pkg.	List Price
616—4 Ft.	12	\$6.00
618—6 Ft.	12	.85

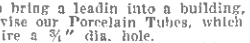
AERIAL SPRING ADJUSTER



Prevents swinging and swaying of antennas and eliminates the resultant fading of signals. Consists of two hooks with porcelain rings interconnecting with a powerful compression spring. Cadmium plated throughout.

No. Adjuster	List Price
765—Birnbach Aerial Spring Adjuster	each \$.50

PORCELAIN TUBES



To bring a lead-in to a building, we advise our Porcelain Tubes, which require a 3/4" dia. hole.

No.	Std. Pkg.	List Price
42—2"	100	\$2.75
43—3"	100	3.35
44—4"	100	4.50
46—6"	100	5.50
48—8"	100	8.00

PHOSPHOR BRONZE

It has about twice the strength of copper. It is used extensively on Master Antenna Systems where strength and reliability are demanded.

No.	Ft.	Size	List Price
499	100	7/18	\$4.50
524	100	7/20	2.50
526	100	7/22	2.25

Special Lengths Available on Order

SOLID ENAMEL WIRE

No.	List Price
597—25 ft. coil	.60
697—50 ft. coil	1.15
497—100 ft. coil	2.25
1497—1000 ft. spool	22.50
No. 12	
192—25 ft. coil	.40
292—50 ft. coil	.75
492—100 ft. coil	1.40
492A—150 ft. coil	2.10
492B—200 ft. coil	2.80
1492—1000 ft. spool	14.00
No. 14	
190—25 ft. coil	.25
290—50 ft. coil	.50
490—100 ft. coil	.90
490A—150 ft. coil	1.35
490B—200 ft. coil	1.80
1490—1000 ft. spool	9.00
No. 15	
498—100 ft. coil	.75



ANTENNA KITS

No. 556—Aerial Kit... Each \$0.60
35 ft. 7-Strand Copper Wire
20 ft. R.C. Lead-in Wire
1—No. 600 Porcelain Insulators
2—No. 669 Glazed NailIt Knobs
1—No. 600 Ground Clamp
1—No. 611 Lead-in Strip
Std. Pkg. 24 Weight 36 lbs.

No. 555—Aerial Kit... Each \$0.70
50 ft. 7-Strand Copper Wire
25 ft. R.C. Lead-in Wire
2—No. 666 Porcelain Insulators
2—No. 669 Glazed NailIt Knobs
1—No. 600 Ground Clamp
1—No. 611 Lead-in Strip
Std. Pkg. 24 Weight 38 lbs.

No. 505—Aerial Kit... Each \$0.90
75 ft. 7-Strand Copper Wire
25 ft. R.C. Lead-in Wire
1—No. 65 Lightning Arrester
2—No. 666 Porcelain Insulators
2—No. 669 Glazed NailIt Knobs
1—No. 600 Ground Clamp
1—No. 611 Lead-in Strip
Std. Pkg. 24 Weight 48 lbs.

No. 500—Aerial Kit... Each \$1.10
75 ft. 7-26 Copper Wire
25 ft. R.C. Lead-in Wire
1—650 Lightning Arrester
1—No. 611 Lead-in Strip
1—No. 600 Ground Clamp
2—No. 666 Porcelain Insulators
2—No. 669 Glazed NailIt Knobs
2—No. 665 Galvanized Screw Eyes
Std. Pkg. 24 Weight 50 lbs.

No. 501—Aerial Kit... Each \$1.60
75 ft. 7-24 Copper Wire
40 ft. R.C. Lead-in Wire
15 ft. Flexible R.C. Wire
1—No. 611 Lead-in Strip
1—No. 650 Lightning Arrester
2—No. 600 Ground Clamp
2—No. 666 Porcelain Insulators
2—No. 669 Glazed NailIt Knobs
2—No. 665 Galvanized Screw Eyes
6 Insulated Staples
Std. Pkg. 24 Weight 64 lbs.

LIGHTNING ARRESTERS

Made of a brown glazed porcelain body with nickel-plated hardware. Suitable for outdoor or indoor use. Complete with mounting screws and instructions.



No.	Std. Pkg.	Each	List Price
650—Lightning Arrester	50		\$0.25
65—Lightning Arrester	100		.15



DOUBLET LIGHTNING ARRESTERS

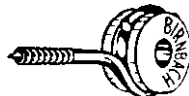
This Arrester is of the air gap type which is the accepted means of protecting doublet antennas from lightning. Installation instructions are printed on the box.

No. 2650—Doublet Lightning Arrester
Std. Pkg. 25. Each \$0.30 List



SCREW EYES

Heavy rustproof cadmium plated steel screws hold the blue glaze porcelain eyes firmly. The bakelite insulated eye is specially molded for outdoor use.



Porcelain Eyes

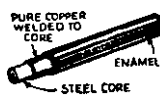
No.	Std. Pkg.	Per 100	List Price
663—3 in.	100		\$5.00
664—7 in.	50		6.00
667—12 in.	25		19.00

Bakelite Eyes

No.	Std. Pkg.	Per 100	List Price
963—3 in.	100		\$5.00
964—7 in.	50		6.00
967—12 in.	25		19.00

COPPERWELD ANTENNA WIRE

(STRETCHLESS)



Has a steel core covered with copper and heavily enameled. It will not elongate because of its high tensile strength—which is several times that of enameled copper wire. It has low R.F. resistance and is ideal for transmitting doublet and directional antenna systems as it will maintain the frequency characteristics of the antenna because of its stretchless qualities.

LIST PRICES

Feet	SIZE (B&S)		
	No. 10	No. 12	No. 14
100	\$2.60	\$1.80	\$1.25
250	6.40	4.40	3.00
500	12.75	8.80	5.90
1000	25.00	17.50	11.50
2500	62.00	43.50	28.50

TENSILE STRENGTH

No. 10	1130 lbs.
No. 12	720 lbs.
No. 14	400 lbs.

SPECIAL LENGTHS AVAILABLE ON ORDER

Birnback HOOK-UP WIRE



SPECIAL SPOOL ASSORTMENT \$62½ LIST PRICE

No.	Ft.	Size	Type	No.	Ft.	Size	Type
3000	80	.22	Solid Pushback	3013	70	.18	Solid Leadin
3001	70	.20	Solid Pushback	3014	75	.18	Stranded Leadin
3002	60	.18	Solid Pushback	3015	40	.18	Stranded Lacquered
3003	40	.16	Solid Pushback	3016	100		Brown & White AC-DC Wire
3004	35	.14	Solid Pushback	3017	35		Kinkless Wire
3005	70	.22	Stranded Pushback	3018	25	.18	Twisted Lamp Cord
3006	60	.20	Stranded Pushback	3019	55	.18	Single Fix. Wire
3007	50	.18	Stranded Pushback	3020	30	.18	Parallel Silk
3008	35	.16	Stranded Pushback	3021	20	.18	Blk., Whit., Brn. Zip Cord
3009	25	.14	Stranded Pushback	3022	100	.18	Solid Tinned
3010	60	.18	Colored Rubber	3023	100	.18	Bell Wire
3011	40	.16	Colored Rubber	3024	20	.18	Shielded Wire
3012	35	.14	Stranded Leadin				



FREE DISPLAY

One Display is given with each initial order for 100 spools. Each Display made of strong, re-inforced steel, mahogany crackle finish with attractive 3 color Display at top. Space provided to indicate YOUR resale price.

EXTRA DISPLAY RACKS AVAILABLE AT \$1.25 EACH, NET

Height — 24" Width — 12½"

RUBBER COVERED LEAD-IN WIRE



Constructed of tinned conductor with a special grade of live rubber compound for outdoor use. Rubber strips easily and leaves the wire clean and bright, ready for splicing and soldering.

clean and bright, ready for splicing and soldering.

SOLID CONDUCTOR 3/64" WALL

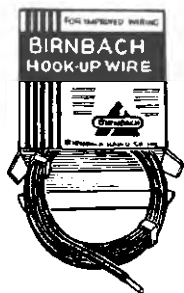
No.	Ft.	Size	O.D.	List Price
1517	25	.20	.125	\$.16
1518	50	.20	.125	.30
1519	100	.20	.125	.60
1520	500	.20	.125	2.75
1521	25	.19	.130	.20
1522	50	.19	.130	.35
1523	100	.19	.130	.70
1524	500	.19	.130	3.12½
1525	25	.18	.135	.25
1526	50	.18	.135	.40
1527	100	.18	.135	.80
1528	500	.18	.135	3.50
1529	25	.17	.140	.30
1530	50	.17	.140	.50
1531	100	.17	.140	.90
1532	500	.17	.140	4.25
1533	25	.16	.145	.30
1534	50	.16	.145	.50
1535	100	.16	.145	.90
1536	500	.16	.145	4.50
1537	25	.14	.154	.35
1538	50	.14	.154	.70
1539	100	.14	.154	1.40
1540	500	.14	.154	6.50

STRANDED CONDUCTOR 1/32" WALL

2331	100	.18	.111	.80
2330	500	.18	.111	3.70
1541	50	.18	.125	.60
1542	250	.18	.125	2.50
1543	500	.18	.125	4.75
1544	500	.18	.125	4.75
1542	500	.20	.103	2.75
1545	1000	.20	.103	5.25

STRANDED CONDUCTOR 3/64" WALL

1552	25	.18	.141	.30
1551	50	.18	.141	.55
1550	100	.18	.141	1.00
1549	500	.18	.141	4.75
1548	500	.16	.155	5.25
1553	500	.14	.175	7.00



RADEX SLIPBACK HOOKUP WIRES

It has a covering of rubber over a cotton wrap and is then covered with a bright color cotton braid and dipped into paraffin. This construction will not cause the cotton insulation to fray or bunch up when pushed back. It has a high dielectric strength and will withstand all climatic changes without breakdown.

25 FT. COILS				100 FT. SPOOLS				500 FT. SPOOLS			
Size	No.	List Price	Stranded No. Price	Solid No. Price	Stranded No. Price	Solid No. Price	Stranded No. Price	Solid No. Price	Stranded No. Price	Solid No. Price	Stranded No. Price
20	280	\$0.30	281 . \$0.35	380	\$1.00	381 \$1.20	480	\$4.75	481 \$5.50		
18	282	.35	283 . .40	382	1.25	383 . 1.45	482	6.00	483 . 6.75		
16	284	.45	285 . .50	384	1.60	385 . 1.90	484	7.50	485 . 8.75		
14	286	.60	287 . .70	386	2.35	387 . 2.50	486	9.75	487 10.50		
12	288	.90	289 . 1.00	388	3.25	389 . 3.50	488	15.00	489 16.50		

1000 FT. SPOOLS				SOLID WIRE PUNCTURE VOLTAGE			
Size	No.	List Price	Stranded No. Price	No. 20	No. 18	No. 16	No. 14
20	580	\$9.00	581 \$10.50	2000	2100	2200	2100
18	582	11.50	583 13.25	2100	2200	2300	2200
16	584	14.50	585 17.00	2200	2300	2400	2300
14	586	19.00	587 20.00	2300	2400	2500	2400
12	588	30.00	589 32.50	2400	2500	2600	2500

COLORS—Black, Red, Blue, Yellow, Green, White, Brown

BIRNTEX SLIPBACK WIRE

This wire is constructed of quality materials and carefully insulated with a cotton wrap over which a cotton braid is closely woven, and then saturated with paraffin.

SOLID COLORS—Red, Black, Green, Blue, Yellow, White.
TRACER COLORS—Red, Black, Green, Blue, Yellow, Brown.

25 FT. COILS				100 FT. COILS			
Size	No.	List Price	Stranded No. Price	Solid No. Price	Stranded No. Price	Solid No. Price	Stranded No. Price
22	70	\$0.20	71 . \$0.25	72	\$0.80	73	\$0.95
20	80	.25	81 . .30	82	.95	83	1.10
18	82	.30	83 . .35	84	1.10	85	1.25

500 FT. SPOOLS				1000 FT. SPOOLS			
Size	No.	List Price	Stranded No. Price	Solid No. Price	Stranded No. Price	Solid No. Price	Stranded No. Price
22	74	\$4.00	75 . \$4.50	76	\$7.50	77	\$8.50
20	88	4.50	89 . 5.00	92	8.25	93	9.50
18	90	5.00	91 . 6.00	94	9.50	95	11.25

Puncture Voltage 60 Cycle A.C. 1500

STRANDED COLORED RUBBER WIRE

It is constructed of carefully annealed stranded tin-copper conductors with a cotton wrap, insulated with a special grade of non-cracking live colored rubber compound. It strips readily and is available in various colors for easy identification.

No.	Ft.	Size	Current Carrying Capacity	Puncture Volts A.C. 60 Cycle	O.D.	Wire Stranding	List Price
225	25	Coll					\$.30
1225	1000	Spool	18½ 3 Amps	5,500	.087	16-30's	10.00
425	25	Coll					\$.50
440	50	Coll	16½ 6 Amps	8,000	.135	28-30's	.90
1440	100	Spool					1.75
2440	500	Spool					8.00
782	25	Coll					\$.70
786	500	Spool	14½ 15 Amps	8,500	.145	26-28's	14.00
784	25	Coll					\$.95
787	500	Spool	12½ 20 Amps	12,000	.190	41-28's	19.00

COLORS—Red and Black.

SHIELDED LEAD-IN WIRE

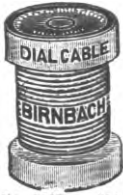
Used to prevent the pickup of interference or man-made static. Consists of a stranded tinned copper conductor with a wall of live rubber over which a tinned copper braid is woven.

No. 20—1/64"				No. 16—1/32"				
No.	Ft.	Cap. mmfd. per Ft.	O.D. List Price	No.	Ft.	Cap. mmfd. per Ft.	O.D. List Price	
810	500	.105	.090	\$.95	825	25	.90	\$.80
					851	100	.90	3.10
					802	250	.90	7.50
					804	25	.95	\$.10
					806	100	.95	4.40
					801	250	.95	10.00

No. 18—1/64"				No. 14—3/64"				
No.	Ft.	Cap. mmfd. per Ft.	O.D. List Price	No.	Ft.	Cap. mmfd. per Ft.	O.D. List Price	
807	25	.125	.100	\$.70				
809	100	.125	.100	2.75				
803	250	.125	.100	6.00				

Birnbach

BIRACO TUBING DIAL and MAGNET WIRE



DIAL CABLE 42 Strand Phosphor Cable

Constructed of the finest phosphor bronze wire over a linen thread center. Due to its high tensile strength, it will not stretch.

- No. 1025—25' Spool List Price \$1.05 each
- No. 1050—50' Spool List Price 2.00 each
- No. 1051—100' Spool List Price 3.60 each
- No. 1052—1000' Spool List Price 30.00 each

Phosphor Bronze (Light Cable)

A lower quality cable than No. 1025, but a cable that will give good service. This is a braided Phosphor Bronze cable.

- No. 1053—25' Spool List Price \$0.60 each
- No. 1054—50' Spool List Price 1.10 each
- No. 1055—100' Spool List Price 2.20 each
- No. 1056—1000' Spool List Price 16.50 each

Extra Heavy Linen Dial Cable

Made of the finest linen for replacement on all receivers, same as used for Philco. It is extra heavy for exceptional long service.

- No. 1057—25' Spool List Price \$1.15 each
- No. 1058—50' Spool List Price 2.25 each
- No. 1059—100' Spool List Price 4.00 each
- No. 1060—1000' Spool List Price 32.00 each

Heavy Linen Cable

This braided cable is used for replacement for all Philco Receivers.

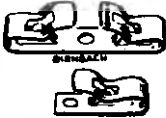
- No. 2025—25' Spool List Price \$1.15 each
- No. 2050—50' Spool List Price 2.25 each
- No. 2051—100' Spool List Price 4.00 each
- No. 2052—1000' Spool List Price 32.00 each

- No. 3025—25' Spool List Price \$1.05 each
- No. 3050—50' Spool List Price 2.00 each
- No. 3051—100' Spool List Price 3.60 each
- No. 3052—1000' Spool List Price 22.50 each

Extra Light Linen Cable

It is a strong extra thin linen cable for replacement. Braided of the finest black linen.

- No. 4025—25' Spool List Price \$0.65 each
- No. 4050—50' Spool List Price 1.25 each
- No. 4051—100' Spool List Price 2.25 each
- No. 4052—1000' Spool List Price 16.50 each



SPRING WIRE CLIPS

They will hold a wire, up to No. 10 B&S Gauge, in a secure contact. All clips are brass nickel-plated.

- No. 32—Spring Clip .11".....100.....\$1.10
- 33—Twin Clip .13".....100.....4.00

ALL RUBBER LAMP CORD

This cord is an all Underwriters Approved rubber covered insulated parallel cord which can be separated by starting with a knife. Connects easily and cannot fray. Sanitary and neat.

- 570—100 Spool18.....\$2.50
- 572—250 Spool18.....5.00
- 573—500 Spool18.....9.50

BUS BAR WIRE

Used to hook up all types of transmitters, especially ultra short wave equipment. Made of hard drawn copper, tinned, straightened, and cut 2 ft. lengths.

- 2010—No. 10 Round Tinned.....\$5.00
- 2012—No. 12 Square Tinned.....3.90
- 2013—No. 12 Round Tinned.....3.40
- 2014—No. 14 Square Tinned.....2.90
- 2015—No. 14 Round Tinned.....2.50

MAGNET WIRE

Special Spools — \$37½ List Price

On attractive spools, even sizes from 14 to 40 inclusive, in Double Cotton, Plain Enamel, and Double Silk. Here is a really sensational seller for the dealer who will put this display on the counter. It is a Silent Salesman which will bring you real profit the year around! **FREE DISPLAY!** One Display is given with each initial order for 100 spools. Each Display made of strong, re-inforced steel, mahogany crackle finish with attractive 3 color Display at top. Space provided to indicate YOUR resale price.

Extra Display Racks available at \$1.25 each, Net.

LENGTH OF WIRE OF SPECIAL SPOOLS

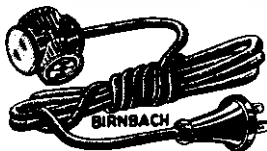
Size B&S	Plain Enamel	Double Cotton	Double Silk	Size B&S	Plain Enamel	Double Cotton	Double Silk	Size B&S	Plain Enamel	Double Cotton	Double Silk
12	15 ft.	9 ft.	— ft.	22	112 ft.	75 ft.	37 ft.	32	675 ft.	180 ft.	124 ft.
14	26 ft.	20 ft.	11 ft.	24	184 ft.	97 ft.	56 ft.	34	900 ft.	195 ft.	131 ft.
16	34 ft.	31 ft.	19 ft.	26	244 ft.	116 ft.	71 ft.	36	1275 ft.	208 ft.	142 ft.
18	56 ft.	44 ft.	23 ft.	28	401 ft.	131 ft.	90 ft.	38	1725 ft.	240 ft.	116 ft.
20	86 ft.	56 ft.	29 ft.	30	525 ft.	158 ft.	112 ft.	40	1950 ft.	285 ft.	125 ft.

¼ LB., ½ LB., 1 LB.,

MAGNET WIRE—Approximate Feet and List Prices

Double Cotton (White)				Plain Enamel				Double Silk (Green)												
½ lb Spool	½ lb Spool	1 lb Spool	1 lb Spool	½ lb Spool	½ lb Spool	1 lb Spool	1 lb Spool	½ lb Spool	½ lb Spool	1 lb Spool	1 lb Spool									
Size B&S	List	Price ft.	List	Size B&S	List	Price ft.	List	Size B&S	List	Price ft.	List									
12	\$0.32	24	\$0.56	12	\$0.27	25	\$0.51	50	\$0.87	12	\$0.46	21	\$0.90	49	\$1.70					
14	19	.33	39	.57	78	1.04	14	20	.28	40	.52	80	.88	14	19	.48	39	.92	78	1.72
16	31	.34	62	.59	123	1.07	16	32	.29	63	.53	126	.90	16	31	.52	62	1.00	125	1.82
18	48	.35	97	.65	194	1.10	18	50	.30	100	.54	201	.93	18	49	.58	99	1.05	198	2.00
20	78	.39	157	.72	304	1.23	20	80	.32	160	.55	320	.97	20	78	.67	157	1.30	314	2.44
22	119	.44	238	.82	477	1.40	22	127	.33	254	.58	508	1.02	22	123	.77	247	1.50	495	2.68
24	134	.51	269	.97	538	1.70	24	201	.35	403	.62	806	1.07	24	135	.85	300	1.65	781	3.20
26	234	.62	568	1.15	1136	2.03	26	320	.42	640	.74	1280	1.33	26	308	1.03	608	2.00	1212	3.92
28	435	.73	871	1.40	1742	2.38	28	507	.44	1015	.78	2030	1.40	28	478	1.15	956	2.25	1912	4.25
30	641	.87	1284	1.65	2569	2.83	30	805	.48	1610	.88	3220	1.60	30	739	1.30	1179	2.50	2958	5.00
32	976	1.07	1953	2.04	3906	3.88	32	1282	.53	2564	.95	5128	1.75	32	1136	1.75	2272	3.40	4545	6.80
34	1365	1.53	2735	2.88	5470	5.45	34	2037	.60	4075	1.09	8150	2.03	34	1712	2.25	3424	4.40	6849	8.50
36	1827	2.10	3654	3.98	7309	7.48	36	3221	.70	6443	1.28	12887	2.39	36	2551	3.50	5102	6.80	10201	13.00
38	2738	4.00	5476	7.50	10952	14.00	38	5132	.80	10264	1.48	20528	2.78	38	3370	5.00	7541	9.50	15082	18.00
40	3405	6.00	6811	11.25	13623	21.00	40	8143	1.20	16286	2.22	32573	4.20	40	5040	7.50	10080	14.25	20161	27.00

ELECTRIC EXTENSION CORDS



Constructed of Underwriters Approved P.O.S.J. All Rubber. Has a bakelite three outlet tap on one end of the cord and is equipped with a cap for insertion into the nearest wall outlet. Is easily installed and brings three convenient outlets where they are needed. Available only in brown.

- No. 508.....6.....\$0.40
- 509.....9......45
- 514.....12......55
- 515.....15......60
- 511.....20......70

BIRACO TUBING (Extruded)



It is an extruded tubing made of the new synthetic plastic material. Extremely flexible and when stretched returns to its original form. Withstands the effects of heat and will not support combustion. Will only soften at 300°F and will not flow at 425°F. Its dielectric strength—750 volts per mil. when dry and 350 volts when wet. It is not affected by oil and is resistant to most coal tar solvents and petroleum solvents. Resists acids, alkalis in concentrations up to 30% by weight. Available in continuous lengths. Dielectric strength—10,000 volts.

- 313.....20......034.....per 36" lengths.....\$0.12
- 314.....18......042......12
- 315.....16......053......13
- 316.....14......066......14
- 317.....12......085......14
- 318.....8......135......35
- 319.....4......208......40
- 320.....2......283......45
- 321.....5/16......3125......50
- 322.....3/8......375......55
- 323.....1/2......500......90
- 324.....3/4......625.....1.00

Write for prices in long lengths



FIXTURE WIRE

A flexible stranded rubber insulated wire with a closely woven cotton braid overall. Useful for interior wiring and as indoor aerials. A popular wire for connecting ground and aerial connection of radio receivers.

- No. 365—1000 ft. No. 20-1/84 Single Conductor, each \$8.00
- 366—1000 ft. No. 18-1/64 Single Conductor, each 9.00
- 368—500 ft. No. 18-1/64 Twisted Pair, each 8.50
- 569—500 ft. No. 20-1/84 Twisted Pair, each 8.00



SERVICE CORDS

Constructed of all rubber Underwriters Approved lamp cord and plug on one end and with the other end stripped and tinned all ready for use.

- No. 817.....Ft.....List Price.....\$0.25
- 819.....10......30



VARNISHED TUBING

Provides quality insulation for wires used on radio sets, small electrical equipment and instruments. The outside is impervious to oil, acid and water. It is highly flexible and will not crack after aging. Average dielectric strength 5000 volts.

- 291.....20......034.....per 30" lengths.....\$0.10
- 293.....18......042......10
- 294.....16......053......10
- 295.....14......066......10
- 300.....12......085......10
- 301.....8......135......30
- 297.....3/16......208......32
- 298.....1/8......283......40
- 303.....5/16......3125......45
- 304.....3/8......375......50
- 299.....1/2......500......85
- 296.....3/4......625......95

Write for prices in long lengths



Birnbach

TEST LEADS and ACCESSORIES

High Voltage Test Leads

The high dielectric strength and low leakage resistance of these test leads recommend them for testing high voltage high sensitivity devices such as Meggers and Megometers. They are particularly well suited for use in testing breakdown voltages up to 1200 volts. The prods and the tip handles are made of black and red bakelite with special designed tips for application. The prods are 6" long and 1/2" dia. and have a guard near the metal tip to prevent accidental touching of the exposed metal part. Extra heavy kinkless test lead wire 7/32" dia. is used throughout. The leads are 60" long.

No. 562—High Voltage Test Leads \$3.00

Deluxe Test Leads

Constructed with 5" long cast phenolic red and black handles with removable needlepoint chucks or solderless tips. Black and red heavy kinkless instrument 48" long is used to connect the prods with the insulated red and black cast phenolic solderless tips. Either needlepoint or solderless tip available.

No. 560—Solderless prod test leads...\$1.00
561—Needlepoint prod test leads...1.00

Bakelite Pencil Type Test Leads

Red and black bakelite handles, 6" long and 5/16" in dia. and red and black bakelite insulated phone tips. Heavy kinkless wire is used together with the Birnbach Scrulok system of solderless wire connection. The universal needle and phone tip prod have the same dimensions as the standard phone tip and are useful for piercing insulation without damage. The needlepoint is extra heavy to prevent breakage and should it become broken can be readily replaced. Available only in combination of needlepoint prods and insulated phone tips. Length overall 60".

No. 408—Bakelite Pencil Type Test Lead \$1.50
439—Needlepoint Prod Tip for Replacement .12

Needlepoint Test Leads

Have 4" red and black insulated handles. Needles can be replaced when broken simply by loosening the knurled collar. Available with either phone tips or spade lugs. Length overall 50".

No. 420—Phone Tip Test Leads...\$.60
421—Spade Lug Test Leads...\$.60

Standard Test Leads
Same as above with a Sr. solderless phone tip.
No. 422—Phone Tip Test Leads...\$.60
423—Spade Lug Test Leads...\$.60

Insulated Solderless Phone Tips

Insulated handles 3/8" dia. by 1" long fitted to solderless phone tips. The wire can be easily attached by threading through the hole in the handle and tightening the knurled nut. Colors:—red, black, green, and yellow.

No. 409—Insulated Sr. Solderless Tip—2 3/4" Long...each \$.12
415—Insulated Jr. Solderless Tip—1 1/8" Long...each .12

Insulated Phone Tip

The insulated handle is 1" long, 1/2" dia. Connection is made by threading wire through the Scrulok threaded bushing (see drawing). Colors: red, black, green and yellow.

412—Scrulok Pin Tip, 1 1/2" Long...each \$.12
419—Scrulok Pin Tip, 1 1/8" Long...each .15

Phone Tip
Ideal for replacement on headset, speaker and extension cords.
No. 402—Std. Pkg. 100
List Price \$1.10 per C

Solderless Phone Tips

Milled of solid brass and nickel-plated. Designed for easy insertion of the wire.

No. 23—Junior...\$5.00
24—Senior...6.00
Std. Pkg. 100.

No. 26 Phone Tip Jack
Milled of brass and nickel plated. The bronze springs are specially made to hold the phone tip tight and straight. Mounts in a 1/4" dia. hole.
No. 26—Std. Pkg. 100.
List Price \$5.00 per C

No. 407 Insulated Tip Jack

Has a 3/8" insulated top and mounts in a 1/2" dia. hole. The specially designed bronze springs hold the phone tip tight and straight. Colors:—red, black, yellow, and green. Std. Pkg. 100.
No. 407—Insulated Phone Tip Jack...\$.10

No. 411 Bakelite Pencil Test Prods

These prods have the Birnbach Scrulok solderless needlepoint tips. They are made of bakelite and are 6" long and 1/2" dia. The connection is made by threading the wire through the handle and securing to the needlepoint tip by locking the Scrulok. The tip is then screwed into the handle. Available in red or black only.

No. 411—Bakelite Pencil Test Prods...\$.60

Solderless Tip Prod

Made of highly polished cast phenolic resin. A solderless phone tip is threaded at end permitting replacement of tip. Available in red or black.

410...4" Handle...\$.20
343...5" Handle...\$.25

Needlepoint Test Prod

A threaded shankneedlepoint chuck is threaded into the end of handle. Made of highly polished cast phenolic handle. Available in red or black.

344—Needlepoint Test Prod, 4" Handle...\$.20
345—Needlepoint Test Prod, 5" Handle...\$.25

SCRULOK Needlepoint Test Prods

These insulated prods have the Scrulok solderless system of wire connection. Wire is easily attached without soldering. An extra heavy needle is fitted into the tip. Colors:—black or red.

No. 417—Needlepoint Test Prod, 4" Handle...\$.20
418—Needlepoint Test Prod, 5" Handle...\$.25

Headset Phone Cords

These cords are closely woven and are very durable and strong. They are used for replacement of worn headset cords. Standard cords are listed which will match practically all headsets manufactured. We will be glad to quote on cords having special terminal requirements.

No. 104—5 ft., Pin Tip on both ends...\$.60
105—5 ft., Pin & Spade Tips...\$.60
107—5 ft., Pin & Eye Tips...\$.60
108—8 ft., Pin & Eye Tips...\$.75
109—10 ft., Pin & Eye Tips...1.00

AC-DC Resistance Cords



Designed for replacement of the internal voltage dropping resistor on the present and older type of AC-DC sets. It consists of a line cord into which a third element has been incorporated. The voltage dropping resistor reduces the voltage to that needed for the filament of the tubes.

No.	Cord Rating	Sets Having Following Tubes	List Price Each
35	135 ohm	25Z5-43-4"	\$.60
36	160 ohm	25Z5-43-3"	\$.60
34	180 ohm	12Z3-43-4"	\$.60
49	200 ohm	25Z5-43-3"	\$.60
37	220 ohm	12Z5-43-3"	\$.60
41	250 ohm	12Z3-43-2"	\$.60
		25Z5-3"	\$.60
38	290 ohm	12Z3-3"	\$.60
45	300 ohm		\$.60
39	330 ohm		\$.60
		12Z3	\$.60
40	350 ohm	12Z3	\$.60
47	350 ohm		\$.60
125	220-110 Volt Voltage reducing cord		1.00
126	280 ohm	4 Wire	\$.75
127	190 ohm	4 Wire	\$.75
128	165 ohm	4 Wire	\$.75

* 6.3 volt tubes. † For Emerson Radio.

Speaker Extension Cords

Constructed of stranded annealed copper wire insulated with rubber over which a brown nitrized cotton braid is closely woven. Complete with easily attached bakelite connector.

No. 156—10 ft. Cord...each \$0.75
120—20 ft. Cord...each 1.00
121—30 ft. Cord...each 1.35
122—40 ft. Cord...each 1.55
123—50 ft. Cord...each 1.75
124—100 ft. Cord...each 3.25
151—Bakelite Extension Cord, Connector only...each .30

Alligator Clips

Made of steel nickel plated. The jaws match accurately permitting them to grip all kinds of wire securely. The insulated handle is 3/8" dia. and 3/4" long and comes in red or black.

No. 31—Alligator clip 2"....\$.50...\$.07
310—Insulated Alligator clip 2 1/4"....\$.50...\$.12

Test Clips

The teeth mesh correctly permitting good contact to be made. The No. 27-S is a solid copper clip with a brass screw designed for high frequency work. Sturdily constructed. Standard Package 50.

Jaw Price- Lgth. Spread ea.
27—Pee Wee...1 1/2" x 3/8"....\$.07
28—Midget...2" x 3/8"....\$.07
29—Medium...2 1/2" x 1"....\$.10
30—Large...4" x 1 1/4"....\$.16
27C—Pee Wee Copper...1 1/2" x 3/8"....\$.13
27R—Rubber Sleeve—red or black...\$.12

Kinkless Test Lead Wire

Abrasion resisting live rubber that will not kink or break down in service. No. 20 has 41 strands and No. 18 has 68 strands of No. 38 tinned annealed copper wire.

No.	Ft.	Price	Size	Rubber Wall Thicknesses	Puncture Voltage 60 Cycle A.C.	O.D.
60	25	\$.50	20#			
61	100	1.70		.045	12,000	.140
62	500	8.00				
64	25	.75	18#	.045	12,000	.155
66	100	2.50				
67	500	11.25				

HIGH VOLTAGE TEST LEAD WIRE
63 25 1.50 18# .076 16,500 .218
68 100 5.00
69 500 22.50
COLORS:—Red and Black.

Birnbach

AUTO CABLE and ACCESSORIES



SHIELDED FABRIC LOOM



Is made of a tinned copper braid over a weatherproof loom. Used to shield auto antenna lead-in and grouped leads against interference, also in shielding the output of signal generators.

No.	Inside Dia.	List Price
1316—100 ft. Spool	3/8"	\$ 7.50
1516—100 ft. Spool	1/2"	10.00
1038—100 ft. Spool	3/4"	12.50
1716—100 ft. Spool	7/8"	15.00
1012—100 ft. Spool	1"	18.00

Ford V-8 Distributor Suppressor



Designed to be inserted in the distributor of Ford V-8. Unit consists of a resistor brush which replaces the regular brush.

No. 365 List Price \$.25

AUTO ANTENNA CONNECTOR

Permits quick connection of the auto antenna lead-in to the receiver.



No. 366—Auto Connector List Price per C \$7.00

FUSED ANTENNA CONNECTOR



This connector takes a standard 3 AG automobile fuse. Used in auto radio power supply cables.

No. 367—Fused Connector List Price per C \$10.00

HIGH VOLTAGE LACQUERED WIRE

Recommended for use as leads for wiring high voltage devices, and transmitter power supplies. Constructed of tinned stranded copper conductor with a wall of rubber covered with a highly lacquered cotton braid.



No.	Ft.	Size	Puncture Voltage	O.D.	List Price
2810—100	10	3/32	9500	.225	\$6.25
2812—100	12	3/32	9500	.192	3.75
2814—100	14	3/32	9500	.187	2.50
2816—100	16	3/32	9500	.153	2.10
2818—100	18	3/32	9500	.145	1.65

Shielded Varnished Cambric Wire

Used where an oil and water resistant wire with a shielded covering is required. Constructed of tinned stranded conductor with 2 layers of varnished cambric and a lacquered cotton braid with a tinned copper shield overall.



Capacity per Ft. mmfds. O.D. Price

No.	Ft.	Size	Ft. mmfds.	O.D.	List Price
1800—100	16	1/16	142	.145	\$6.00
1818—100	18	1/16	102	.131	5.25
1820—100	20	1/16	100	.125	4.75

SHIELDED GRID LEAD WIRE



High insulation of this wire will reduce the loss in shielded grid circuits.

Constructed of tinned stranded conductor with a rubber insulation, waxed cotton braid with closely woven shield overall.

No.	Ft.	Size	Ft. mmfds.	O.D.	List Price
818—100	18	3/32	76	.180	\$3.75
820—100	20	3/32	70	.150	3.00

AUTO RADIO SHIELDED LEAD-IN



Consists of a stranded tipped copper conductor, insulated with rubber and filled with hemp and a tinned copper braid overall.

No.	Ft.	Capacity mmfd per ft.	O.D.	List Price
799—100	49		.275	\$ 7.50
800—100	34		.500	11.25

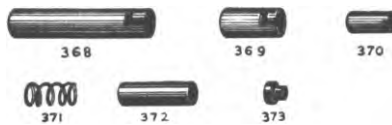
7 MM HIGH TENSION CABLE



Useful in reducing interference from auto secondary circuits. Also used as photo electric cell leads and wherever a low loss shielded lead is required.

No.	List Price Per 100'
1600—7 MM. High Tension Cable	\$4.50
781—7 MM. Shielded Secondary Wire	8.00

REPLACEMENT PARTS



No.	Description	List Price per C
368	Female Sleeve for Fuse Connector	\$5.00
369	Female Sleeve of Antenna Connector	4.00
370	Male Part of Antenna Connector	3.00
371	Spring for Antenna and Fuse Connector	1.00
372	Fibre Insulator for Fuse Holder	.70
373	Bakelite Eyelet Bushing	1.25

RAYON BRAID LACQUERED WIRE

Constructed of stranded tinned copper conductor for easy soldering, with heavy wall of live rubber over which a rayon braid is woven. A high gloss lacquered finish over braid. Conductor consists of 16 strands of No. 30.



No.	Ft.	Puncture Voltage	Size	List Price
3425—25	Coil	9000	18 3/32	\$.45
3450—50	Coil	9000	18 3/32	.90
3460—100	Coil	9000	18 3/32	1.70
3600—500	Spool	9000	18 3/32	8.00

Colors: Black, red, green, yellow, brown, blue

YARNISHED CAMBRIC WIRE

Widely used in automotive wiring because of oil and waterproof construction. Consists of tinned stranded conductor with two layers of varnished cambric over which a lacquered cotton braid is woven.



No.	Ft.	Size	Puncture Voltage	O.D.	List Price
3416—100	16	1/16	1000	.108	\$4.25
3418—100	18	1/16	1000	.107	3.50
3420—100	20	1/16	1000	.094	2.75

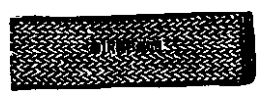
No. 340 Wheel Static Eliminator

An effective means of reducing static created by the front wheels. Installation is made by placing the broad base of the spring against the hub cap and the cone point into the hole of the axle.



No. 340—Std. Pkg. 50 List Price \$6.00 per 100

AUTO RADIO SHIELDING

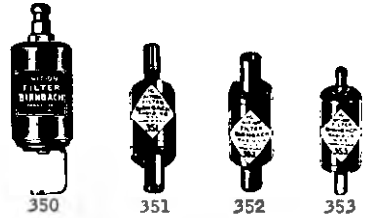


Used for shielding leads of interference creating circuits; and for bonding motor block and other parts of the automobile to the chassis.

T I N N E D		
No.	Inside Dia.	List Price
858—50 ft. Spool	1/8"	\$1.40
859—50 ft. Spool	1/4"	1.50
863—50 ft. Spool	3/8"	1.90
864—50 ft. Spool	1/2"	2.25
865—50 ft. Spool	5/8"	4.00
857—50 ft. Spool	3/4"	6.50

B A R E		
No.	Inside Dia.	List Price
860—50 ft. Spool	1/4"	1.65
861—50 ft. Spool	3/8"	1.90
862—50 ft. Spool	1/2"	3.90

AVAILABLE IN SPECIAL LENGTHS



BIRNBACH IGNITION FILTERS

These Ignition Filters completely eliminate all ignition and high tension circuit interference, making clear auto radio reception a certainty. The only ignition filters having a copper wound inductance, which accounts for the low resistance of 120 ohms for the Ignition Filter. Less gasoline is consumed than when high resistance filters are used.

No.	Description	List Price each
350	Ignition Filter—Bracket Type	\$.50
351	Ignition Filter—Cable Type	.50
352	Distributor Filter	.50
353	Ignition Filter—Screw Type	.50
359	Ignition Filter—Slip-on Type	.50

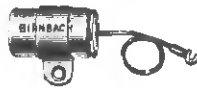
BIRNBACH MASTER FILTER

Eliminates all ignition interference and does away with the necessity of having a separate filter for each spark plug. Available in two types, namely, the Distributor type for easy insertion into distributor head, and the Cable type to be placed into the distributor lead where it is impossible to insert it into the distributor head.



No.	List Price each
354—Cable or Distributor Type	\$2.00

AUTO NOISE FILTER



These are especially designed for the elimination of noise created by generator commutator, electrical

windshield wiper, horn, and especially dome, tail, and stop light cables. Connections made by bolting down the flange of container to chassis. The long insulated lead with a convenient screw lug is connected to the source of interference.

No.	List Price
355—Auto Noise Filter—1/2 Mfd.	ea. \$.50
356—Auto Noise Filter—1 Mfd.	ea. .60



Birnbach PLUGS and JACKS

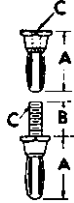


GIANT PLUGS

Used for heavy current, they are rated at 25 amps. The long life nickel silver alloy spring is secured over a pin preventing a collapse of the spring and also maintaining the full action of the spring when inserted into the jack. The No. 398A plug has a hole in the threaded shank to permit soldering to it. It is used extensively on diathermy electrode pad cables. Standard Package 25.



No.		A	B	C	List Price
396	Plug	1 5/8"	—	10-32	each \$.20
397	Plug	1 1/8"	—	1/4-20	each .25
398	Plug	1 3/8"	5/8"	1/4-28	each .20
398A	Plug	1 3/8"	5/8"	1/4-28	each .20



GIANT JACKS

Milled with the central hole being reamed to size to insure a tight fit with all Giant Plugs. The No. 394 and No. 399A have a 10-32 thread tapped at the end permitting connection to be made. They are all made of brass and nickel-plated and come complete with nut and lug.



No.	Std. Pkg.	A	B	C	List Price
394	Jack	25	1 1/8"	1/2"	3/8-24.....each \$.20
395	Jack	25	1 1/8"	1/2"	3/8-24.....each .15
399	Jack	25	2 1/8"	5/8"	1/2-20.....each .20
399A	Jack	25	1 3/8"	—	.....each .25

No. 392 INSULATED GIANT PLUG



Made so that no projecting edges are exposed, thereby protecting the user from unnecessary contact. Connection is made by soldering into the hole at the end of the threaded shank of the plug. Handle is 1 3/4" long by 5/8" dia.; length overall 3". Colors: red or black.

No. 392—Insulated Giant Plug List Price \$.35

No. 393 INSULATED GIANT JACK



Designed to leave no metal part exposed on the panel. The 3/8-24 brass nickel plated sleeve has a 10-32 threaded hole at the end permitting a connection at the end of the jack or to the lug under the head. Either assembly available complete with nut, insulating shoulder washer, lock-washer and lug. Length overall 1 1/2". Colors: red or black.

No. 393—Insulated Giant Jack under head lug..... \$.30
393A—Insulated Giant Jack end lug \$.30

HARD RUBBER INSULATED GIANT PLUG



Especially designed for use with diathermy cables. It has a 3/8" dia. hole in the handle to take the largest cable. It is made of polished black hard rubber. The handle is 3" long by 3/8" dia. Overall length is 4 1/2".

No. 342—Hard Rubber Insulated Plug List Price \$.80

No. 341 Insulated Banana Plug



This plug consists of our No. 404A plug with a larger handle 1 3/4" long by 1/2" dia. Used on a therapeutic apparatus and test equipment. Overall length 2 3/4". Colors: red or black.

No. 341—Insulated Banana Plug List Price \$.25

No. 404 Insulated Banana Plug



The plug is for experimental test leads because of its Scrutok solderless connection and the non-collapsible special alloy springs assembled on a pin preventing collapse of the plug spring. The handle is made of phenolic resin and is 3/4" by 1" long. Colors: red, black, yellow and green.

No. 404—Insulated Banana Plug.....Std. Pkg. 50.....List Price \$.15

No. 604 BANANA PLUG



Made of solid brass nickel-plated, with the end being slotted. The cast phenolic handle is 1" long by 3/8" dia. and is held on by the screw that secures the wire to the plug. Colors: red, black, yellow and green.

No. 604—Plug.....Std. Pkg. 50.....List Price \$.10

No. 605 HANDLE JACK



Consists of a banana jack inside an insulated sleeve. Connection is made by soldering to the end of the jack. Handle is made of cast phenolic resin 3/8" dia. by 1 1/4" long. Colors: red, black, yellow and green.

No. 605—Handle Jack.....Std. Pkg. 50.....List Price \$.15



BANANA PLUGS

Large area of contact is one of the outstanding features of these jacks and plugs. The No. 400 series of packages have a nickel silver contact spring secured over a full length central pin, making these plugs non-collapsible and assuring a low resistance contact. Capacity 5 amperes. Standard Package 100.



No.		A	B	C	List Price
400	Plug	3/4"	1/2"	6-32	each \$.06
401	Plug	3/4"	—	6-32	each .07
404A	Plug	3/4"	3/8"	1/4-28	each .10



No. 403 BANANA JACK



Accurately milled and has a precision reamed hole to help maintain the tight and smooth action of the plug. It is made of brass nickel plated and comes complete with nut and lug. Standard Package 100.



No.		A	B	C	List Price
403	Jack	3/4"	1/2"	1/4-28	\$0.06

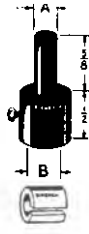
INSULATED BANANA JACKS



The No. 391 Jack is very popular with the electric therapeutic manufacturers. The 1/2" dia. insulated head admits all of the exposed metal part of the metal plug when inserted. Mounts in a 3/8" dia. hole on a panel up to 3/8" thick. The No. 406 Jack has a 7/16" dia. insulated top. It fits into a 5/8" dia. hole and takes up to a 3/8" panel. Both come complete with insulating shoulder washer, nut and lug.

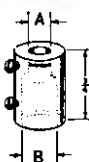
No.		Std. Pkg.	List Price
391	Insulated Jack—red or black	50	\$.12
406	Insulated Jack—red, black, yellow, or green	50	.10

SHAFT COUPLINGS, REDUCERS AND EXTENDERS



By the use of these units all 1/4" and 3/8" dia. shafts and knobs can be assembled together. The insulated units are for use where electrical isolation is desired. Furnished complete with set screws shown. Be sure to specify whether Brass or Insulated is desired.

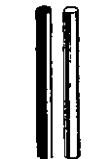
Brass No.	Insulated No.	Shaft A	Hole B	List Price
534	634	1/4"	1/4"	each \$.15
535	635	1/4"	3/8"	each .15
336	636	3/8"	1/4"	each .15
537—Reducer for 3/8" Dia. Hole to 1/4" Dia. Shaft.				each .10



Brass No.	Insulated No.	Shaft A	Hole B	List Price
531	631	1/4"	1/4"	each \$.15
532	632	1/4"	3/8"	each .15
533	633	3/8"	1/4"	each .15



No.	Length	Hole I.D.	Shaft O.D.	List Price
538—Brass	1 3/8"	1/4"	1/4"	each \$.20
539—Insulated	1 3/8"	1/4"	1/4"	each .20



No.	Dia.	Length	List Price
540	1/4"	6" Long	each \$.15
541	1/4"	12" Long	each .30
542	3/8"	8" Long	each .30



No.	Dia.	Length	List Price
543	1/4"	6" Long	each \$.20
544	1/4"	12" Long	each .35
545	3/8"	8" Long	each .35

TINNED LUGS



No.	Hole for Screw	Length	List Price Per M
1	6	1 1/2"	\$ 2.50
2	10	5/8"	2.50
3	1/4	5/8"	2.50
4	3/8	7/8"	16.00
5	1/2	1 1/2"	20.00
21	10	1 1/8"	5.00
22	1/4	1 1/2"	12.50
201	8	1 1/8"	5.00
96	6-8-10	7/8"	4.00
97	8	5/8"	4.00
98	6-8	1 1/8"	5.00
99	4-6-8	1 1/8"	5.00

Birnbach

INSULATORS



CONE STANDOFF INSULATORS

Made of low absorption high tensile strength porcelain with a smooth glaze. All heights except the No. 430 are available with a Jack or a threaded hole top. Range of sizes are adequate for all needs. They are available only in a white glaze and come complete with screws, metal and cork washers.



No.	Height		Std. Pkg.	Threaded Holes			Mounting Hole	List Price each
	A	B		C	D	E		
430	5/8"	100	50	5/8"	1 1/8"	6-32	6-32	\$.10
431	1"	50	10	1 1/8"	1 3/8"	6-32	8-32	.14
431J	1"	50	10	1 1/8"	1 3/8"	8-32	No. 430 Jack	.19
432	1 1/2"	50	10	1 3/8"	1 5/8"	10-32	10-32	.18
432J	1 1/2"	50	10	1 3/8"	1 5/8"	10-32	No. 403 Jack	.23
433	2 3/4"	25	5	1 3/4"	2 1/4"	1 1/4"-20	1 1/4"-20	.25
433J	2 3/4"	25	5	1 3/4"	2 1/4"	1 1/4"-20	No. 395 Jack	.40

CORRUGATED FEEDTHRU INSULATORS

The six now corrugated type feedthru insulators have more than twice the leakage path of the straight type because of increased surface of the corrugations and recommends itself where a straight side insulator of equal height is not satisfactory because of its shorter leakage path. Brass nickel-plated hardware and cork mounting washers supplied.



No.	Height		Std. Pkg.	Mounting			List Price each
	A	B		C	Hole	Hardware	
479	1 3/8"	25	5	1 1/8"	1 1/8"	10-32	ea. \$.35
479J	1 3/8"	25	5	1 1/8"	1 1/8"	No. 403 Jack	ea. .40
4276	2 3/8"	10	5	1 5/8"	1 5/8"	1/4"-20	ea. .65
4276J	2 3/8"	10	5	1 5/8"	1 5/8"	No. 394 Jack	ea. .30
4452	4 1/2"	5	2 1/2"	1 1/2"	1"	1/4"-20	ea. .95
4452J	4 1/2"	5	2 1/2"	1 1/2"	1"	No. 394 Jack	ea. 1.10

HIGH VOLTAGE FEEDTHRU INSULATOR

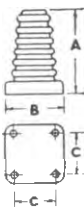
This insulator has been designed to meet the demand for an insulator having high dielectric and mechanical strength. The extra long leakage path is made possible by the corrugations on the top insulator. The bottom sleeve taper from a base dia. of 1 1/8" where the electric stress is greatest.



Height 1 1/2" Base Dia. 2" Mounting Hole 1 1/4" Hardware 1/4"-20 No. 4233 List Price \$0.50

METAL BASE INSULATORS

Designed to replace conventional porcelain insulators where failure of the base is due to cracking when fastened down. Extremely long leakage paths due to the corrugated surface is one of the important characteristics. They are made from high tensile strength low absorption porcelain smoothly glazed all over. Supplied with nickel-plated brass screws and nuts and cadmium plated drawn steel bases.



Cat. No.	Height		Std. Pkg.	Mounting Screw			List Price
	A	B		C	D	Hardware	
867	1 3/8"	25	17 1/2"	1 1/8"	1 1/2"	2 No. 8	10-32 ea. \$.18
867J	1 3/8"	25	17 1/2"	1 1/8"	1 1/2"	2 No. 8	No. 403 Jack ea. .23
4176	2 3/8"	10	13 1/2"	1 3/8"	1 3/4"	4 No. 10	1/4"-20 ea. .34
4176J	2 3/8"	10	13 1/2"	1 3/8"	1 3/4"	4 No. 10	No. 395 Jack ea. .46
4451	4 1/2"	5	2 1/4" x 2 1/4"	1 3/4"	1 3/4"	4 No. 10	1/4"-20 ea. .50
4451J	4 1/2"	5	2 1/4" x 2 1/4"	1 3/4"	1 3/4"	4 No. 10	No. 395 Jack ea. .65

"LUCITE" FEEDTHRU INSULATORS

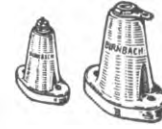
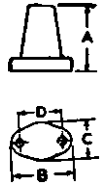
These feedthru insulators are ideal for bringing high frequency leads thru a panel. They are made of genuine Dupont Lucite. Because of its low loss at high frequency, it is well adapted to insulated elements of high frequency circuits. The 1/2" dia. insulators have brass nickel plated 6-32 hardware and the 3/4" have 10-32 hardware.



No.	Height		Panel above Insulator	Dia.	Mtg.	Bottom Hole	List Price
	A	B					
377	1/4"	1/2"	1/2"	1/2"	1/8"	1/4"	\$.15
378	1/2"	3/4"	1/2"	1/2"	1/8"	1/4"	.20
379	1"	1 1/2"	1/2"	1/2"	1/8"	1/4"	.25
475	1 1/2"	2 1/4"	3/4"	3/4"	1/8"	1/2"	.50
476	2"	3 1/4"	3/4"	3/4"	1/8"	1/2"	.60

STANDOFF INSULATORS

The sizes range from 5/8" to 4 1/2" high in five properly graduated heights. Made of highly vitrified low absorption glazed porcelain. No washers are necessary for mounting as the mounting surface is ground flat; but for the No. 405 and No. 966 Standoff insulators, it is advisable to use cork washers which are available as they

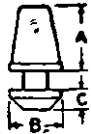


will permit mounting securely without breakage. All brass nickel-plated hardware is supplied. Available in white or brown glaze.

No.	Height		Std. Pkg.	Mounting Holes			List Price each
	A	B		C	D	Hardware	
405	5/8"	100	1"	3/8"	1/8"	6-32	\$.06 1/2
965	1"	50	1 1/4"	3/4"	1/8"	8-32	.07 1/2
966	1"	50	1 3/8"	3/8"	1/8"	8-32	.07 1/2
966J	1"	50	1 3/8"	3/8"	1"	No. 403 Jack	.10
866	1 1/2"	25	1 3/4"	1 3/8"	1 1/4"	10-32	.12
866J	1 1/2"	25	1 3/4"	1 3/8"	1 1/4"	No. 403 Jack	.15
866SJ	1 1/2"	10	1 3/4"	1 3/8"	1 1/4"	No. 395 Jack	.35
4275	2 3/4"	10	2 3/4"	2"	2 1/4"	1/4"-20	.30
4275J	2 3/4"	10	2 3/4"	2"	2 1/4"	No. 399 Jack	.55
4450	4 1/2"	5	3 3/4"	2 1/2"	2 5/8"	1/4"-20	.50
4450J	4 1/2"	5	3 3/4"	2 1/2"	2 5/8"	No. 399 Jack	.75

FEEDTHRU INSULATORS

Made of highly vitrified, low absorption porcelain smoothly glazed to prevent accumulation of dust or dirt. Maximum strength is achieved by the proper proportions and flat mounting surfaces. Long insulating sleeves on the lower part of the insulator contribute much



to their performance on high voltages. Brass nickel-plated hardware.

No.	Height		Std. Pkg.	Mounting Hole			List Price each
	A	B		C	D	Hardware	
458	5/8"	50	1 1/8"	1/4"	1/8"	6-32	ea. \$.12
478	1"	25	1 1/8"	1/8"	1/8"	10-32	ea. .20
478J	1"	25	1 1/8"	1/8"	1/8"	No. 403 Jack	ea. .25
4125	1 1/4"	25	7/8"	3/8"	1/8"	10-32	ea. .25
4125J	1 1/4"	25	7/8"	3/8"	1/8"	No. 403 Jack	ea. .30
4234	2 3/4"	10	2"	1"	3/4"	1/4"-20	ea. .55
4175	2 3/4"	10	1 1/4"	3/4"	5/8"	1/4"-20	ea. .50
4175J	2 3/4"	10	1 1/4"	3/4"	5/8"	No. 394 Jack	ea. .75

BEE-HIVE STANDOFF

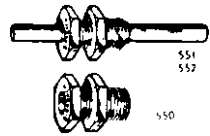
Base measures 2" dia. with 3 holes on a 1 1/2" circle, for No. 6 screws. Supplied complete with 12-24 nickel-plated brass screw and nuts. The No. 766J has a No. 403 Jack. Available white or brown glaze.



No.	Hardware	Std. Pkg.	List Price
766—Standoff Insulator	12-24 Screw	10	\$.10
766J—Jack Type	No. 403 Jack	10	.20

FRONT PANEL BEARING

The No. 550 Front Panel Bearing is cadmium plated brass for panels up to 3/8" in thickness and for 1/4" dia. shafts. The No. 551 and No. 552 are complete assemblies of the No. 550 and 1/4 dia. brass shaft cadmium plated.



Cat. No.	Std. Pkg.	List Price
550—Front Panel Bearing	each	\$.15
551—Front Panel Bearing, 1/4 shaft, 3" long	each	.30
552—Front Panel Bearing, 1/4 shaft, 6" long	each	.40

FLEXIBLE COUPLINGS

These flexible couplings cover all needs of the constructor. Tandem operation of two or more units is possible without having the shafts in exact alignment. Flexibility without back-lash is obtained by the cadmium plated phosphor bronze springs, which are rigidly riveted to the insulation. All units fit 1/4" dia. shafts.

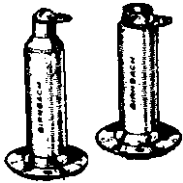


No.	Dia.	Insulation	List Price each
360	1 1/4"	Fibre	\$.25
361	1 3/4"	Bakelite	.30
362	1 7/8"	Steutite	.40

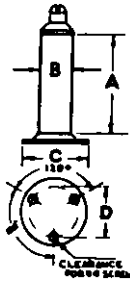


Birnback INSULATORS

STEATITE PILLARS



These (steatite) pillar insulators have great tensile strength with extremely low losses at very high frequencies and are glazed on the outside to decrease surface leakage. They are tapped on both ends and are supplied complete with nickel-plated mounting base and top hardware.



No.	Height A	Std. Pkg.	B	Hardware	Base Dia. C	D	List Price each
450	1"	10	1/2"	6-32	1 1/8"	7/8"	\$.20
450J	1"	10	1/2"	No. 403 Jack	1 1/8"	7/8"	.25
451	1 1/2"	10	1/2"	6-32	1 1/8"	7/8"	.25
451J	1 1/2"	10	1/2"	No. 403 Jack	1 1/8"	7/8"	.30
452	2 1/2"	10	1/2"	6-32	1 1/8"	7/8"	.30
452J	2 1/2"	10	1/2"	No. 403 Jack	1 1/8"	7/8"	.35
453	2 1/2"	5	3/4"	1/4-20	1 1/8"	1 1/8"	.60
453J	2 1/2"	5	3/4"	No. 395 Jack	1 1/8"	1 1/8"	.70
454	4"	5	3/4"	1/4-20	1 1/8"	1 1/8"	.80
454J	4"	5	3/4"	No. 395 Jack	1 1/8"	1 1/8"	.90



LUCITE SPREADERS

They are made of Dupont Lucite rod which has a very low loss at radio frequencies. It is water clear and has very low water absorption. The holes are drilled to take a No. 12 wire. A screw at the end of the spreader locks the wire in position.

LUCITE SPREADERS

No.	Wire-Spacing	Std. Pkg.	List Price Each
436	2"	25	\$.025
437	4"	25	.30
438	6"	25	.35

LUCITE RODS

No.	Dia.	List Price per Ft.
455	1/4"	\$.040
459	3/8"	.50
460	1/2"	.85
461	3/4"	1.50

Available in lengths up to 48 inches

FEEDER SPREADERS

They have a cross section of 3/8" x 1/2". Made of highly vitrified, low absorption, high tensile strength porcelain with a smooth white glaze overall.

No.	Std. Pkg.	List Price
462—Spreader, 2" long	25	each \$0.12
464—Spreader, 4" long	25	each .15
469—Spreader, 6" long	25	each .20



ANTENNA INSULATORS

These Antenna Insulators have exceptional low moisture absorption. The leakage path is long and the cross section is small and is consistent with the strength required. A smooth white glaze overall prevents the accumulation of dirt or ice.

No.	Std. Pkg.	List Price
668—4 1/4" long	25	each \$.15
470—7" long	10	each .50
471—12" long	5	each .70
468—4 1/2" long Center Insulator	10	each .25



LEADIN INSULATORS

Each cone is 2 3/4" high and made of low absorption, highly vitrified glazed porcelain. The Nos. 4237 and 4238 Leadin Insulators have sufficient insulating bushings to insulate the rod that goes through the wall. In addition, 2 bushings are included, 1/4" and 1/2" long, allowing complete insulation of the threaded rod of any length in multiples of 1/4". They come complete with brass nickel-plated hardware and lead and cork washers to permit a water-tight seal.



No.	Description	List Price
4235	—10" Rod	\$.90
4236	—15" Rod	1.00
4237	—10" Rod with bushings	1.20
4238	—15" Rod with bushings	1.50

STEATITE BUTTON

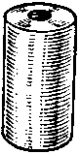
These specially designed steatite buttons are intended for use to simplify wiring and to be used as a binding post or a binding post insulator, or as a standoff insulator. Attention is called to the uniqueness of the design which prevents either section of the insulator from turning in respect to the special screw. The specially designed screw locks both sections.



A 1 1/2"	B 1/2"	C 3/4"	D 1/2"	E 6-32
No. 457	Std. Pkg. 25			List Price \$.25

STEATITE PILLARS (Without Hardware)

In many constructions, these unmounted threaded steatite pillars will facilitate assembly because of the one hole mounting and parallel mounting holes. They are made of glazed Steatite with threaded holes on both sides.



No.	Height	Dia.	Threaded Hole	List Price
445	1"	1/2"	6-32	\$0.12
446	1 1/2"	1/2"	6-32	.15
447	2 1/2"	1/2"	6-32	.20
448	2 1/2"	3/4"	1/4-20	.45
449	4"	3/4"	1/4-20	.70

AIRPLANE INSULATORS

Used on mobile antenna installations, particularly on aircraft, as they are shaped for the least air resistance. They are made of white glazed low absorption porcelain.



No.	Length	Std. Pkg.	List Price
473	—2"	100	each \$.07
474	—1 1/2"	100	each .05 1/2

STEATITE AIRPLANE INSULATORS

A very small compression type insulator with small wind resistance. It is 1 1/2" long and 1/2" dia.

No. 463—Std. Pkg. 25, List Price \$.15 ea.



TUBE CLAMPS

These tube clips will be found extremely desirable when mounting resonant lines or elements of directive beam antennas. They are made of hard drawn aluminum and are available for 3/8", 3/8", 1/2", 3/4" and 1" dia. tubes. The 3/8", 3/8", and 1/2" have a clearance hole for No. 10 screw and the 3/4" and 1" dia. clamps have holes for 1/4" bolts.



Cat. No.	To Fit Tube	List Price
51—Clamp	1/4" Dia.	each \$0.10
52—Clamp	3/8" Dia.	each .10
53—Clamp	3/8" Dia.	each .10
54—Clamp	1/2" Dia.	each .10
55—Clamp	3/4" Dia.	each .15
56—Clamp	1" Dia.	each .20
57—Clamp	3/4" Dia.	each .20

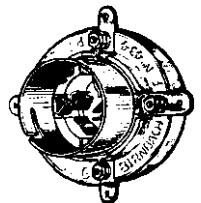
FLEXIBLE SHAFTS

At times there is difficulty getting the controls to the proper position on the panel. With couplings and these flexible shafts, locations can be made with ease on an offset and angles up to 90 degrees. The flexible shafts are made of phosphor bronze and fitted into 1/4" dia. hubs.

Cat. No.	List Price
553—Flexible Shaft, 3" long	each \$0.35
554—Flexible Shaft, 6" long	each .50

TRANSMITTING TUBE SOCKETS

Improved design and additional features of the Birnback transmitting sockets has increased their popularity and are accepted as standard. The 50 watt socket has extra heavy side-wiping phosphor bronze contact spring with the filament spring having a double contact to safely carry the heavy current. The tube base is supported by the highly polished nickel-plated low absorption porcelain base which is ground flat to prevent breakage. All brass nickel-plated screw and milled nuts are used.



Cat. No.	List Price
434—50 Watt Socket	each \$1.25
435—10 Watt Socket	each .85



INSULATED PHONE TIP JACK

The head is made of insulated material and is supplied with a shoulder washer for a complete insulation. Supplied in three different size heads and available in all colors.

- No. 1866 3/8" Head \$1.0 each
No. 138 7/16" Head .10 each
No. 1860 9/16" Head .15 each

BANANA PLUG OR TIP JACK



Made to take standard phone tips in banana type plugs. Plugs will fit interchangeably. Mounts in a 1/4" hole in panels up to 1/2" thick. Overall length 1 3/8".

- No. 148 \$1.5 each



HEXAGON HEAD TIP JACK

The head is made of hexagon material and is forced into the tip jack to prevent the head from turning loose. Size of head is 7/16" across the flats and is available in all colors.

- No. 1828 \$1.12 each



COMBINATION INSULATED BINDING POSTS

This insulated binding post is of new design which accommodate standard banana plugs through the top of the post, a standard phone tip through the side, or as more ordinarily used with a wire through the side.

- No. 143-All colors \$1.15 each



INSULATED BANANA PLUG JACK

Will fit all our standard banana size plugs. Mounts in a 5/16" diameter hole and can be used up to panels 3/8" thick. Overall length 7/8". Available in all colors.

- No. 336 \$1.15 each

INSULATED BINDING POST

This type binding post is available in two sizes. Easy identification is made possible by the bright colored head.



- Ea. 146 1/2" Head \$1.08
147 3/8" Head .80

HEAVY DUTY METAL BINDING POST

This type of binding post is especially designed for high amperage work or for use on test equipment where low resistance connections are imperative.

- No. 32 \$10.00 per C

Solderless Insulated Banana Plug



A completely insulated Banana Type Plug to fit all standard Banana Jacks. A one-piece Phosphor Bronze Spring and full length center pin assure good contact and long life.

- No. 332 12c each

Split Type Banana Plug



Designed to snugly fit a standard type banana jack. Spring action is positive and durable. A set screw is provided in the side of the barrel to secure the wire to the plug without soldering.

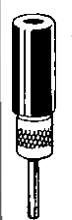
- No. 331 \$1.15 each



Insulated Banana Plug

A set screw in the side of the barrel secures the wire within the plug without the necessity of soldering. A full length center pin prevents the spring from collapsing.

- No. 131-7/8" Sleeve Overall Length 1 1/8" 12 1/2c ea.
No. 131A-1 1/2" Sleeve Overall Length 2 1/4" 15c ea.



PHONE TIP PLUG

This solderless phone tip is made to fit our No. 137, and No. 138 Jacks and No. 143 Binding Posts. Tightening the knurled collar produces a perfect electrical connection without the necessity of soldering.

- No. 142 Plug \$1.12 each



INSULATED BANANA JACK

This insulated Banana Jack is used with the Banana Type Plugs 3/4" long and mounts in a 1/4" hole in panels up to 3/8" thick. Available in all colors.

- No. 136 \$1.10 each

NEW BANANA JACK



Recommended for use with No. 1150 Banana Plug. Countersunk to fit tapered portion of plug shank. Will fit panels up to 7/16" thick.

- No. 1151 \$1.06 each

PHONE TIP JACKS

The outstanding feature of this jack is the specially designed springs within the body that hold the phone tips straight and grip firmly at all times. Mounts in a 1/4" hole in panels up to 3/8" thick.



- No. 137 \$6.00 per 100

NEW BANANA TYPE PLUG



Equipped with a 6/32 Female thread and supplied with a 6/32 screw and soldering lug. A one piece phosphor bronze spring assures positive and long lasting contact.

- No. 1150 \$1.07 each



Streamlined Phone Tip Plug

The highly polished ameroid handles are made so that they will fit a standard non-insulated or insulated phone tip jack.

- No. 1855 25c each

PHONE PLUGS



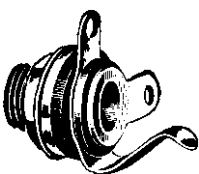
The AHRCO Phone Plug designed for use with all standard size jacks, is available in a variety of colors, and a brass nickel polished sleeve. A shielded sleeve of this type is imperative in many microphone circuits.

- No. 128 Plug with Ameroid Sleeve \$1.40 each
No. 218 Plug with Pol Nickel Sleeve .75 each

Midget Phone Plugs

This Midget Phone Plug fulfills a pressing need for a small but practical plug to fit all standard phone jacks.

- No. 1786 2 1/4" Plug \$1.35 each



MIDGET JACKS

ARHCO Midget Phone Jacks are made of the finest quality brass and are nickel plated with an enduring nickel finish. Noiseless contact is provided by phosphor bronze spring contacts. Mounts in 3/8" diameter hole, in panels up to 5/16" thick.

- No. 89 Open Circuit Jack \$1.25 each
No. 1789 Closed Circuit Jack .30 each

BABY PLUGS AND JACKS

These plugs and jacks are excellent for use in all high frequency transmitters and receivers. Their small size allows them a wide range of uses.

- No. 392 plug has a 10/32 threaded shank, a 3/16" hexagon shank and is 7/8" overall. Also available with 7/8" Ameroid Handle in any standard color. The mate to this plug is the No. 394 Jack. It has a hexagon head and a 10/32 threaded shank which will fit in panels up to 1/4" in thickness. Also available with an insulated ameroid head in any standard color.
No. 392 Threaded Shank Plug Per 100 \$6.50
No. 393 Plug and Ameroid Handle 10.00
No. 394 Non-Insulated Jack 6.00
No. 395 Insulated Jack 10.00

Banana Type Plugs



This type Plug is extensively used on coils and on other plug-in transmitting and laboratory equipment.

- No. 1764-6/32 Thread 1" Long \$9.50 per 100
No. 120-6/32 Thread 1/2" Long \$7.00 per 100
No. 122-8/32 Thread 1/2" Long \$7.00 per 100

Sr. Solderless Phone Tip



May be used with all our standard type phone tip jacks. Entirely constructed of high grade brass with nickel plated finish. Overall length is 1 3/8".

- No. 10 Tip \$6.00 per 100

Jr. Solderless Phone Tip



Fits all standard phone tip jacks such as our No. 137 and No. 138. Made entirely of brass with nickel plated finish. Length overall is 1 1/8". The tip is 3/8".

- No. 9 Tip \$5.00 per 100



Split Type Banana Plug

The strong action of the contact prongs eliminates faulty electrical continuity. The hexagonal shape of the body between the tip and the threaded shank facilitates holding of plug while tightening. The plug fits our jacks Nos. 136, 125, 148, and 336. The overall length is 1 1/4".

- No. 124 \$7.00 per 100

Insulated Solderless Phone Tip

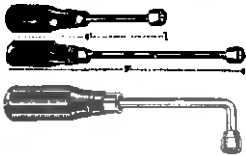


This type Phone Tip is highly recommended on set analyzers, tube testers and all types of laboratory test equipment. Fits all standard tip jacks. A knurled collar is provided which when tightened after inserting the wire thru the barrel, securely clamps the wire and makes soldering unnecessary. The overall length of the plug is 2". The sleeve is 1" Long.

- No. 141 12c each



AMERICAN RADIO HARDWARE CO., Inc.

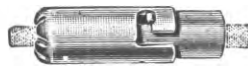


SPIN TYPE SOCKET WRENCHES STRAIGHT AND OFFSET TYPES

Wrenches are made with a deep hollow hole in ends of shanks that will take long screws up to No. 10 Straight Types six and nine inches long; offset type seven inches long.

6" LONG			9" LONG			7" OFFSET		
No.	for	Ea.	No.	for	Ea.	No.	for	Ea.
48	3/16" Hex Nut	\$.25	58	3/16" Hex Nut	\$.30	106	3/16" Hex Nut	\$.30
50	1/4" Hex Nut	\$.25	54	1/4" Hex Nut	\$.30	107	1/4" Hex Nut	\$.30
51	5/16" Hex Nut	\$.25	55	5/16" Hex Nut	\$.30	108	5/16" Hex Nut	\$.30
52	3/8" Hex Nut	\$.25	56	3/8" Hex Nut	\$.30	109	3/8" Hex Nut	\$.30
53	7/16" Hex Nut	\$.25	57	7/16" Hex Nut	\$.30	110	7/16" Hex Nut	\$.30
59	1/2" Hex Nut	\$.25	59	1/2" Hex Nut	\$.30	111	1/2" Hex Nut	\$.30
660 box of six 6" long wrenches 1.50			690 box of six 9" long wrenches 1.80			670 box of six 7" long wrenches 1.80		

ANTENNA AND FUSE CONNECTORS



These Connectors are made in two types; one that is plain and the second with a reinforced ring around the connecting part of the Connector. The Connectors

are made for automobile quick connections either on the antenna or ground line as well as for the standard 3AG automobile fuses.

In addition to being available completely assembled, they are also available in individual parts.

No. 221 Overall length 1 1/4"	7c each
No. 222 Overall length 3 1/2"	10c each

REINFORCED RING TYPE

No. 231 Overall length 1 1/4"	12c each
No. 232 Overall length 3 1/2"	15c each



Unbreakable Handle Spin Type Socket Wrenches

The ARHCO Amber Handle Socket Wrenches are made with amber color plastic unbreakable handles which are absolutely shockproof and unbreakable. The socket wrenches are constructed with a deep hollow hole in the end of the socket and will take a screw up to a No. 10 diameter. The shank is made of steel and cadmium plated. The socket is made of fine steel and case hardened for service and durability. The handle is 1" in diameter and is ribbed for a tight and firm grip and can easily be spun around. The overall length is 7 1/2".

No.	for	Ea.	No.	for	Ea.
3100	3/16" Hex Nut	\$.60	3104	3/8" Hex Nut	\$.60
3101	1/4" Hex Nut	\$.60	3105	7/16" Hex Nut	\$.60
3102	5/16" Hex Nut	\$.60	3106	1/2" Hex Nut	\$.60
3103	11/32" Hex Nut	\$.60	3107	Complete set of seven wrenches	4.20



Volume Control Wrench

The handles of the volume control wrench are made of amber color plastic unbreakable material which will withstand the severest sledge hammer blows. The handle is 1" diameter 3 1/2" long and is ribbed so that a firm and secure grip necessary to tighten the nuts is assured. The shank is made of fine steel, cadmium plated and will take shafts up to 4 1/4" long x 1/4" O. D. The socket is of case hardened steel accurately turned and broached and securely fastened to the shank. No. 3116 \$1.00

PARKER KALON TYPE SOCKET WRENCHES

3110 for No. 4 Screw	\$2.00 each
3111 for No. 6 Screw	2.00 each
3112 for No. 8 Screw	2.00 each
3113 for No. 10 Screw	2.00 each
3114 for No. 12 Screw	2.00 each

DUAL GRID CAP



This cap may be used with the standard glass tube cap or the small metal tube grid cap. Furnished with a 12" wire and standard phone tip. Cap is made of ameroïd and is

available in various colors.
No. 412 20c each

Insulated Grid Caps



The 418 fits the standard glass tube cap and the 419 fits the 866 tube cap, as well as many types of transmitting tubes. Cap is provided with a 12" wire.

No. 418 Glass Tube Cap \$.20 each
No. 419 866 Type Cap .30 each

Beaded Edge Grid Caps

A beaded edge is formed around the lower edge of the cap to produce a wiping grip and ease of soldering is assured by a bridge in the tail.

No. 102 \$1.00 per M
202 (Metal Tube Caps) 2.50 per M

New Metal Tube Grid Caps

Made in two types—one without a hole and one with a hole in the tail of the cap to facilitate the soldering of the wire.
No. 114 \$4.00 per M
No. 121 with Hole 4.00 per M
Metal Tube Grid Cap to fit Inside of Grid Shield.
No. 115 \$4.00 per M

Candelabra Bulb Socket



These candelabra type sockets are designed to be used wherever a heavy duty intermediate base socket is required. Two tinned eyelets provide easy soldering connections.

No. 1542 (Up Bracket) \$7.00 per C
No. 1543 (Down Brkt.) 7.00 per C

Clip-on Bracket Type Sockets



Will accommodate all standard miniature base bulbs. The height of the shell and washer is 1/2" and the length of the bracket is 5/8".

No. 34 UP Clip type 3/4" long \$7.00 per C
No. 35 DOWN Clip type 1 1/8" long 7.00 per C

Horizontal Panel Indicator Assembly



This departure in design of panel indicators has many outstanding features. The bulb fits into the jewel so the maximum light is concentrated thru the jewel. The bulb is instantly removable. Due to its design this indicator requires less space than ordinary types. The jewels are supplied in Red, Green, Amber, Blue, and White.
No. 88 50c each

Grid Cap Shield



Cadmium plated or black finish.
92 Cad. Plated \$1.0 ea.
94 Black .15 ea.

Alligator Clips



These alligator clips are available in two sizes and can be supplied either in cadmium or bright nickel.

45AT 2" Long \$7.00 C
242 2 3/4" Long 8.00 C

Approved Type Bayonet Dial Sockets



These sockets are completely insulated and made in four types, all meeting the Underwriters Laboratories' approval.

1721 Straight UP Bracket \$15.00 C
1722 Straight DOWN br. 15.00 C
1723 UP clip-on bracket 15.00 C
1724 DOWN clip-on br. 15.00 C

Bayonet Type Dial Sockets

The shell is securely eyeleted to the bracket proper. The center contact is of new design permitting a constant and positive pressure on the bulb contact.
1539 Straight UP bracket \$7.00 C
1539 Straight DOWN br. 7.00 C
1540 UP clip-on bracket 7.00 C
1541 DOWN clip-on br. 7.00 C

Approved Type Panel Indicator Bayonet Type

This socket conforms to Underwriters Laboratories' specifications. Constructed so that accidental short circuits are prevented. Each socket furnished with a red, green, amber, blue or white glass "Bull's eye." Mounts in panels up to 5/16" thick.
No. 1725 \$3.00

Panel Indicator Bracket

The indicator mounts in a single hole 7/16" in diameter and can be used on panels up to 5/16" in thickness. The jewels are translucent Ameroïd in various colors. Available in Red, Blue, White, Green, and Amber jewels.
No. 39 Miniature Socket .25 each
No. 93 Candelabra Type Socket .40 each

Insulated Alligator Clips



Insulated Alligator Clips Nos. 129 and 130 consist of the No. 65AT clip with Ameroïd Handle attached. The No. 152 Insulated Alligator Clip utilizes the No. 242 size clip. All clips are furnished with a loop around which the connecting wire can be twisted for soldering.

129 Clip, Overall 2 3/4", Handle 1 1/4" long \$15 each
130 Clip, Overall 2 1/4", Handle 1 1/2" long \$15 each
152 Clip, Overall 3 1/4", Handle 1 1/4" long \$17 1/2 each

Approved Type Clip-In Sockets



A Pilot Light Socket that meets the rigid requirements of the Underwriters Laboratories. Connection to the shell is made by a lug which is lanced directly from the shell body and connection to the center of the contact of the bulb is made with a specially moulded rubber sleeve which embodies a spring and contact.
No. 1718 18c each

Clip-In Sockets

It is so constructed that it may be clipped into a dial directly. It requires a mounting slot 3/4" long and 1/2" wide.
No. 1757 Clip-in socket screw shell type \$8.00 per C
No. 1760 Clip-in socket bayonet type 8.50 per C

Giant Panel Indicators



Each pilot light indicator can be individually marked, by writing in the desired copy one requires on the card disc which is supplied with each unit. Mounts in 3/8" hole in panels up to 3/8" thickness. Indicator 1" in diameter and extends 1 3/8" behind the panel. Available in green, red, blue.
1872 Bayonet Type \$7.75 ea.
1873 Miniature Screw Shell .75 ea.



AMERICAN RADIO HARDWARE CO., Inc.

Fibre Neutralizing Tools



Made of hard fibre and are a 3 in 1 combination. A 1/4" diameter screw driver on the inside and 1/4" and 5/16" sockets at each end of the tool. A completely insulated neutralizing tool for servicemen.

No. 2501. Each... 50c

Ameroid Neutralizing Tools

Made of ameroid and are a 3 in 1 combination 1/4" diameter screw driver on the inside and 1/4" and 5/16" sockets at each end of the tool.

700 Neutralizing Tool...\$45 each
720 Majestic Attachments .15 each
730 Crosley Attachments .15 each

Fibre Neutralizing Tubes

These tubes are ideal, for when the hexagon wears out it can be cut off and used again. It may be had in the 1/4" or 5/16" hexagon nut size as listed.

2502 6" Long\$.20 each
2503 8" Long\$.25 each
2504 10" Long\$.30 each
2505 12" Long\$.35 each
2506 28" Long\$.75 each

TUNING WANDS



This is a soft rubber Tuning Wand. Made of soft rubber so that it can be bent into any desired shape. These rubber tuning wands have a

pulverized iron core at one end and a brass insert at the other. Wand is 6" Long. Straight tuning Wand also available.

Each
940 Flexible Tuning Wands \$1.00
825 Straight Tuning Wand...\$.70

PROD HANDLES

Prod Handles and Banana Test Prods to fit all needs. Available in all standard colors.

SOLDERLESS TEST PRODS:
145 Handle 5 1/2"\$.25 each
149 Handle 7"\$.30 each

PHONO NEEDLE PROD HANDLES:
153 Handle 4 1/2"\$.25 each
155 Handle 5 1/2"\$.30 each

BANANA TEST PRODS
151 Handle 5"\$.40 each
134 Handle 3"\$.30 each
135 Handle 1 1/2"\$.25 each

Alligator Alignment Wrench

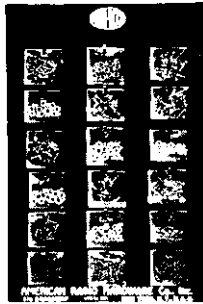


Made to fit various sizes both knurled and hexagon nuts up to 3/8" diameter. The alligator jaws are fastened to the insulating rod with a rivet to prevent turning. Overall length is 6" and diameter of shaft is 1/4". Available in assorted colors.

No. 805\$.35 each

ARHCO HARDWARE MERCHANDISER

An attractive display consisting of seventy-two transparent cellophane envelopes—eighteen different items and four envelopes of each item. Replacement envelopes of all the items may be ordered separately from catalog numbers listed below.



2330 Display Card of Hardware \$7.20

The contents are easily identified as each envelope is stamped as to the item it contains. The following articles are furnished as an integral part of the display.

2331 RHICPMS 6/32" x 1/4"\$.10
2332 RHICPMS 6/32" x 3/8"\$.10
2333 RHICPMS 6/32" x 1/2"\$.10
2334 RHICPMS 6/32" x 3/4"\$.10
2335 RHICPMS 6/32" x 1"\$.10
2336 RHICPMS 8/32" x 1/4"\$.10
2337 RHICPMS 8/32" x 3/8"\$.10
2338 RHICPMS 8/32" x 1/2"\$.10
2339 RHICPMS 8/32" x 3/4"\$.10
2340 RHICPMS 8/32" x 1"\$.10
2341 Steel Hex Nuts C.P. 6/32" x 1/4"\$.10
2342 Steel Hex Nuts C. P. 6/32" x 5/16"\$.10
2343 Steel Hex Nuts C. P. 8/32" x 5/16"\$.10
2344 No. 6 Nickel Plated Washers\$.10
2345 No. 8 Nickel Plated Washers\$.10
2346 No. 6 Shakeproof Lock Washers\$.10
2347 No. 8 Shakeproof Lock Washers\$.10
2348 No. 6 Kantlink Washers\$.10

AMBER BAKELITE HANDLE SCREW DRIVERS



The ARHCO No. 2356 Display Card consists of twelve Handle Screw Drivers. The top of the handles are machined out of Amber Colored Bakelite in both convex and concave shapes—and ribbed for solid grip.

2350 Convex Handle 2 1/4" Blade \$.15
2351 Convex Handle 3 1/2" Blade .20
2352 Convex Handle 4 1/2" Blade .25
2353 Concave Handle 2 1/4" Blade .15
2354 Concave Handle 3 1/2" Blade .20
2355 Concave Handle 4 1/2" Blade .25
2356 Display Card2.40

The different styles and sizes of screw drivers shown on the Display Card are also supplied separately.

Low Capacity Alignment Screw Driver

The screw driver is made of 1/4" Ameroid Rod Silver Finish, provided with two screw driver knibs. The knob extending from the lower end of the handle extends 1/2" and can be used for ordinary padding condensers. There is another recessed screw driver knob in the upper end of the handle which may be used for aligning permeability tuned circuits.

No. 2370\$.50

Dual Duty Alignment Tool



Handle is 3/8" diameter 2 1/2" long. From one end of the handle there is a sturdy 1 3/4" screw driver blade. This screw driver blade may be used for aligning padding condensers. From the opposite end a socket screw driver projects which may be used for adjustable iron core tuning systems. Overall size of screw driver is 6".

No. 2371\$.50

Fuse Mounting Bases



These fuse bases are designed for the auto type fuse. Available in two types, one for breadboard mounting and the other for panel mounting.

103 Single, Baseboard Mount \$.15
127 Double, Baseboard Mount .25
104 Single, Panel Mount .15
126 Double, Panel Mount .25

Alignment Screw Driver

This screw driver is made of ANEROID, 6" long and 7/32" in diameter, and is so fabricated that the amount of metal in the screw driver nib will negligibly affect the inductance of the coil. This is of prime importance in the alignment of modern all-wave receivers. Available in various colors.

No. 860\$.25 each

Push Button Tuner Aligning Tool



Specially adaptable for aligning Push Button Tuning units of the variable permeability type. Handle is 3/8" diameter and 1 7/8" long. The shank is 4 1/2" long and permanently fixed in the handle. The socket is 7/32" diameter and contains a screw driver knob recessed in the socket.

No. 2372\$.50

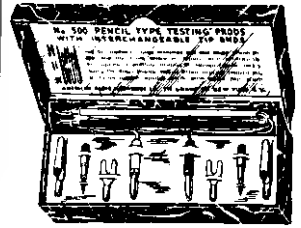
Compensating Screw Driver



Made of ameroid. The compensating screw driver has a special shape blade at one end for adjusting trimmer screws. The other end is knurled for a non-slip grip. Supplied with pocket clip. 6" overall.

No. 710\$.20 each

Pencil Type Test Prods With Interchangeable Tips Ends



Spring prongs located at flexible end of test prods allows to interchange spade lugs, phone tips, and alligator spring clips. New type needle point phone tip for piercing through insulated wire for a good contact. Equipped with black and red flexible wires measuring 5 feet and same colored handles. Each set complete with two Alligator Clips, two Needle Point Phone Tips, and two American Type Tapered Lugs. 500\$1.50 Set

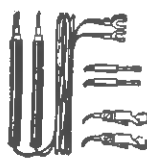
Socket Head Alignment Wrench



This is an Alignment Tool 5" long with a brass 1/4" socket head that fits over trimmer screws on various types of receivers. Outside diameter of this Hexagon Wrench is 3/8". An insulating shaft is forced into wrench and riveted to prevent shaft from turning. The other end has a hardened screw driver bit for adjusting trimmer screws. Diameter of the insulation is 7/32" and will fit into a 1/4" hole where the wrench has to go thru the top of a coil available in assorted colors.

No. 820\$.50 each

Heavy Duty Test Prods



Ameroid prod handles are 7/16" diameter and 5" long. Prods equipped with 60" long heavy duty flexible wire. Prod tips are sharp, suitable

for scraping and piercing corrosion. Handles and leads are colored red and black.

300 with Taper Lugs.....\$.80 pair
310 with Phone Tips......80 pair
320 with Alligator Clips...\$.90 pair

TEST LEADS



SOLDERLESS TIP TEST LEADS

200 with Phone tips\$.60 pr.
210 with Spade Lugs\$.60 pr.
260 with Alligator Clips\$.70 pr.

PHONO NEEDLE TEST LEADS
230 with Phone Tips\$.60 pr.
240 with Spade Lugs\$.60 pr.
259 with Alligator Clips.....\$.70 pr.

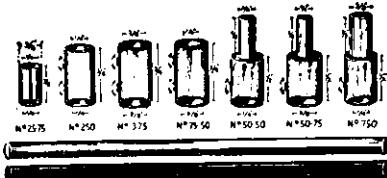
TEST LEAD SPECIAL

Ameroid Handles with 3 feet of kinkless rubber covered wire. Standard Phone Tip on one end; spade lugs on the other end.
No. 439 Price \$45



AMERICAN RADIO HARDWARE CO., INC.

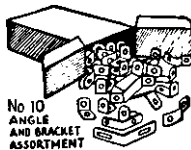
SHAFT COUPLINGS EXTENDERS & REDUCERS



These accurately machined brass fittings can be used for coupling shafts of the same or different diameter, for straight extension, or for extension with smaller or larger shaft diameter.

NO.	LENGTH	Hole I.D.	O.D.	EA.
25-75	7/16"	1/4"	3/8"	O.D. Dial Bushings 7c
250	3/4"	1/4"	1/2"	O.D. Brass Coupling 15c
375	3/4"	3/8"	9/16"	O.D. Brass Coupling 15c
75-50	3/4"	3/8"	9/16"	O.D. Brass Coupling 15c
50-50	1 1/8"	1/4"	1/2"	O.D. Brass Reducer 15c
50-75	1 1/8"	3/8"	9/16"	O.D. Brass Reducer 15c
750	1 1/8"	1/4"	1/2"	O.D. Brass Reducer 15c
6250	6"	1/4"	1/2"	Diameter Brass Shaffing 15c
12250	12"	1/4"	1/2"	Diameter Brass Shaffing 30c
388	8"	3/8"	1/2"	Diameter Brass Shaffing 30c
250 C	3/4"	1/4"	1/2"	O.D. Ins. Coupling 15c
375 C	3/4"	3/8"	9/16"	O.D. Ins. Coupling 15c
75-50 C	3/4"	3/8"	9/16"	O.D. Ins. Coupling 15c
50-50 C	1 1/8"	1/4"	1/2"	O.D. Ins. Reducer 15c
50-75 C	1 1/8"	3/8"	9/16"	O.D. Ins. Reducer 15c
750 C	1 1/8"	1/4"	1/2"	O.D. Ins. Reducer 15c
637 C	6"	1/4"	1/2"	Diameter Insulated Shaffing Black 10c
1237 C	12"	1/4"	1/2"	Diameter Insulated Shaffing Black 20c
388 C	12"	3/8"	1/2"	Diameter Insulated Shaffing Black 30c

ANGLE AND BRACKET ASSORTMENT



28 popular size angles and brackets made of brass and nickel plated. A choice selection of "Z" brackets and perforated strips are included. Indispensable for mounting radio parts.

No. 488-10 \$.50

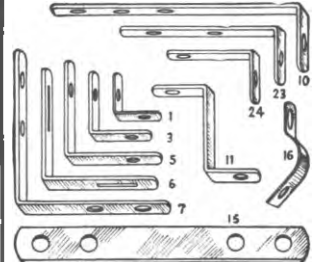


Self-Tapping Screw Assortment

Parker Kalon self-tapping screw assortment of most popular sizes. Genuine replacements for ALL standard brand receivers.

No. 1078 \$.50

ANGLES AND BRACKETS



No.	Length	Hole Size	Per 100
1	1/2" x 1/2"	6 or 8	\$2.50
3	3/8" x 3/8"	8	1.60
5	1" x 1"	8	2.50
6	1 1/8" x 1 1/8"	8	3.25
7	1 1/2" x 1 1/2"	8	4.00
10	5/8" x 2 1/4"	8	4.00
11	13/16" high	8	1.60
15	2 3/8" long	8	3.50
23	1/2" x 1 1/2"	8	2.00
24	1/2" x 7/8"	8	1.60

TINNED BRASS LUGS



No.	Length	Hole Size	1000
1	5/8"	6 or 8	\$2.50
2	5/8"	8	2.50
3	3/4"	8	2.50
4	5/8"	6 or 8	2.50
5	7/8"	6 or 8	2.50

Twin Phone Tip Jacks

Jacks in this assembly are our No. i38 type, mounted on a bakelite strip 1/2" wide and 2" long. Coded red and black for identification. Mounting strips may be had unmarked or with the following identification: SPEAKER, INPUT, OUTPUT, 1-2, and A-G. No. 406 Marked \$.25 each No. 405 Unmarked \$.20 each

Bracket Type Lug Strips

No.	Price per 100
1620 3 lug	\$10.00
1621 4 lug	12.00
1622 5 lug	15.00
1623 6 lug	18.00

1841 Special Mounting Bkt. 1.25

1839 Mounting Bracket and Lug Combination 1.50

Available with No. 1841 Bracket as illustrated or with No. 1839 Bracket, which is a combination bracket and mounting lug or with No. 1847 Bracket which is similar to No. 1839 but with a tapped 6/32 hole.

1660 3 Lug with 1839 Br.	\$12.00
1661 4 Lug with 1839 Br.	14.00
1662 5 Lug with 1839 Br.	17.00
1663 6 Lug with 1839 Br.	20.00
1664 3 Lug with 1847 Br.	14.00
1665 4 Lug with 1847 Br.	16.00
1666 5 Lug with 1847 Br.	19.00
1667 6 Lug with 1847 Br.	22.00
1847 Bracket and Lug with tapped 6/32 Hole	3.00

Rubber Grommet Ass'm't

An assortment of 5 sizes of pure gum and black rubber grommets.

No. 68 Assortment of 12 Rubber Grommets	\$25
No. 69 Assortment of 30 Rubber Grommets	50
No. 70 Assortment of 100 Rubber Grommets	1.60

Special Angle Brackets with Tapped Holes

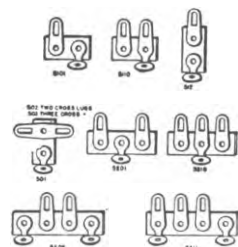


No.	Size	Per 100
No. 1627	1/2" x 1/2" Bracket	\$3.00
No. 1628	1/2" x 3/4" Bracket	3.50
No. 1629	1/2" x 3/4" Bracket	4.00
Z Bracket Type with no clearance hole—one tapped hole, 1/2" x 3/8"		
Bend x 7/16" long.	2363	4.00

ROUND HEAD STEEL CADMIUM PLATED MACHINE SCREWS

PRICE PER 1000	PER 1000
1/4" x 6/32 \$2.80	1/4" x 8/32 \$6.00
3/8" x 6/32 3.05	1/2" x 8/32 6.50
1/2" x 6/32 3.35	2" x 6/32 7.50
3/4" x 6/32 3.60	2 1/2" x 8/32 9.00
1" x 6/32 3.90	3" x 8/32 11.00
1 1/8" x 6/32 4.45	1/4" x 10/32 \$4.15
1 1/4" x 6/32 \$3.35	3/8" x 10/32 4.45
3/8" x 8/32 3.65	1/2" x 10/32 4.75
1/2" x 8/32 3.90	3/4" x 10/32 5.00
3/4" x 8/32 4.15	1" x 10/32 5.30
1" x 8/32 4.45	1 1/4" x 10/32 5.85
1 1/8" x 8/32 5.00	

Terminal Lug Strips



No.	Per C	No.	Per C
5101	\$2.00	5201	3.00
5110	2.25	5210	3.25
512	2.25	5202	4.00
501	2.25	5211	4.25

Fancy Head Bronze Finish Screws

Per 1000
3/4" x 6/32 \$6.00
1" x 6/32 6.70
1 1/2" x 6/32 7.80
1 1/2" x 8/32 9.45
3/4" x 8/32 7.80
1" x 8/32 8.90
1 1/4" x 8/32 10.00
1 1/2" x 8/32 12.30

FIBRE SCREWS Round Head

Per 100
1881 6/32 x 3/16 \$4.00
1882 6/32 x 1/4 4.50
1883 6/32 x 3/4 5.25
1884 6/32 x 1/2 6.00
1885 8/32 x 3/16 4.00
1886 8/32 x 1/4 4.50
1887 8/32 x 1/2 5.25
1888 8/32 x 1/2 6.00

Bakelite Terminal Strips and Terminals



No.	Price per 100
1501 2 Term Marked	\$1.16
1502 2 Term. Plain	.15
1503 2 Term. A. & G.	.19
1504 2 Term "Output"	.18
1505 2 Term. "Input"	.18
1506 3 Term. Plain	.20
1507 3 Term. Marked	.25
1508 4 Term. Marked	.35
1509 4 Term Plain	.30

RUBBER GROMMETS

Ideal for use on all types of electrical and radio purposes.

No.	Panel Hole	I.D.	O.D.	Panel Thickness	Per 100
1113	13/32	21/64	5/8	1/16	\$2.35
1114	1/4	1/8	11/32	1/16	1.50
1115	3/8	1/4	9/16	7/32	2.50
1118	5/16	3/16	7/16	1/16	2.00
1119	13/32	17/64	9/16	1/16	2.00
1120	7/16	19/64	5/8	1/16	2.25
1121	1/2	3/8	11/16	1/16	2.25
1122	11/32	1/4	1/2	1/32	2.00

When ordering Gum Rubber add G to Number and add \$1.00 per C to list price of Black.

WASHERS

No.	Size	Per 100
1641	1/4" x 6/32	.30
1642	1/2" x 6/32	.35
1643	3/4" x 6/32	.40
1644	1" x 6/32	.45
1637	1/4" x 8/32	.35
1638	1/2" x 8/32	.40
1639	3/4" x 8/32	.45
1640	1" x 8/32	.50
1630	1/4" x 10/32	.45
1631	1/2" x 10/32	.50
1632	3/4" x 10/32	.55
1633	1" x 10/32	.60

No.	Size	Per 100
1634	6/32 Cup Washer	.80
1635	8/32 Cup Washer	.80
1636	10/32 Cup Washer	.80

TERMINAL BOARDS PLUG-IN TYPE



Where connections must be changed quickly and easily and yet maintain a firm contact.

No.	Price
1701 1 Clip Strips	\$1.10 Each
1702 2 Clip Strips	1.12 Each
1703 3 Clip Strips	1.15 Each
1704 4 Clip Strips	1.20 Each
1705 5 Clip Strips	1.25 Each
1706 6 Clip Strips	1.30 Each
1707 7 Clip Strips	1.35 Each
1708 8 Clip Strips	1.40 Each
2391 Contacts Only	1.25 per C
1715 Pin Plug	.08 Each

ESICO

Green Label Electric Soldering Irons

GENERAL INFORMATION: These irons are extraordinarily high-quality tools. They are packed in green label boxes to differentiate from Esico Industrial Irons, which have orange labels. They have one-piece blued steel cases. Rich



dark mahogany handles. Replaceable forged copper tips. They are wound in voltages ranging from 32 to 250 volts and can be used on both A.C. or D.C. current. (Nick Nacks 105-120 volts only.)

55 WATTS

"NICK NACK"



CAT. No. 15

Tip $\frac{1}{8}$ " in Diameter

Weight 6 Oz.

Length $11\frac{3}{4}$ "

List Prices — Iron Complete \$1.10 Extra Tip 20c Element 50c

65 WATTS

"MIDGET"



CAT. No. 16

Tip $\frac{1}{8}$ " in Diameter

Weight 7 Oz.

Length $11\frac{1}{4}$ "

List Prices — Iron Complete \$1.75 Extra Tip 30c Element \$1.25



100 WATTS
"JUNIOR"

CAT. No. 17

Tip $\frac{1}{8}$ " in Diameter

Weight 9 Oz.

Length $12\frac{1}{4}$ "

List Prices — Iron Complete \$2.75 Extra Tip 30c Element \$1.35



150 WATTS
"TROPHY"

CAT. No. 18

Tip $\frac{3}{8}$ " in Diameter

Weight 18 Oz.

Length $12\frac{1}{2}$ "

List Prices — Iron Complete \$5.00 Extra Tip 45c Element \$2.50

COPPER TIPS FOR MIDGET OR JUNIOR IRONS

CAT. No.
JM 2

Tip $\frac{3}{8}$ " in Diameter
Fits either
Midget or Junior



Price
30c



CAT. No.
JM 3

Tip $\frac{5}{8}$ " in Diameter
Fits either
Midget or Junior



Price
30c

ESICO

Industrial Electric Soldering Irons

GENERAL INFORMATION FOR PLUG TIP IRONS:

These irons can be used on both A.C. or D.C. current and are wound in voltages ranging from 105 to 240 volts. The tips are the plug type, held by a set screw, which is easily removed for making tip replacements. It is not necessary to return these irons to the factory for repairs. Elements and other parts are easily replaced. For soldering,



these irons cannot be surpassed as ample heat is delivered to the tip for fastest work. For durability, their construction is such, with a one-piece heavy-gauge steel case, mounted element and a positive grip handle, that through use, the parts cannot fail to give unlimited service, regardless of the hardest use imposed upon them. Each iron is equipped with a 6' cord and attachment plug. A metal stand is supplied with every tool.



List Prices—Iron Complete \$5.00
Extra Tip 25c Element \$2.25

No. 54—65 WATTS

Tip $\frac{3}{8}$ " in Diameter

Equal to copper of $\frac{1}{2}$ lb. Length overall 10". Weight exclusive of cord, 8 oz. For light work, such as soldering fine wires, radio factory use, tool kits, and especially suitable for use of operators where a light short tool is required.



List Prices—Iron Complete \$5.50
Extra Tip 32c Element \$2.75

No. 96—110 WATTS

Tip $\frac{3}{8}$ " in Diameter

Equal to copper of $\frac{3}{4}$ lb. Length overall, 12". Weight exclusive of cord, 10 oz. For electrical and radio factories, telephone switchboards, telephone repair work, fuses, tool kits, light manufacturing, delicate instruments, radio and electrical experimental laboratories.



List Prices—Iron Complete \$7.75
Extra Tip 65c Element \$3.50

No. 126—130 WATTS

Tip $\frac{1}{2}$ " in Diameter

Equal to copper of 1 lb. Length overall, 12 $\frac{1}{2}$ ". Weight exclusive of cord, 16 oz. For light tin work, automobile repairs and general factory soldering. A very handy tool because of its shortness.



List Prices—Iron Complete \$8.75
Extra Tip 70c Element \$3.75

No. 206—200 WATTS

Tip $\frac{1}{2}$ " in Diameter

Equal to copper of 1 $\frac{1}{2}$ lbs. Length overall, 14". Weight exclusive of cord, 24 oz. For medium tin work, automobile repairs, patterns and general factory work. Suitable for small branders.



List Prices—Iron Complete \$10.25
Extra Tip \$1.25 Element \$5.00

No. 355—310 WATTS

Tip $\frac{7}{8}$ " in Diameter

Equal to copper of 3 lbs. Length overall, 14 $\frac{1}{2}$ ". Weight exclusive of cord, 41 oz. For very heavy sheet metal work, tinsmiths, automobile radiators, refrigerators and branding purposes.



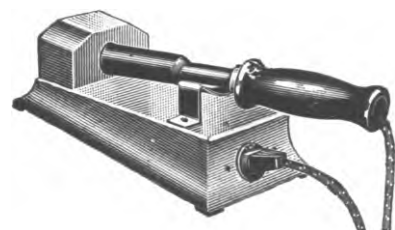
List Prices—Iron Complete \$12.25
Extra Tip \$1.75 Element \$6.00

No. 505—500 WATTS

Tip 1 $\frac{1}{8}$ " in Diameter

Equal to copper of 5 lbs. Length overall, 14 $\frac{1}{2}$ ". Weight exclusive of cord, 54 oz. For very heavy soldering, large tanks or cans, roofs and objects of large area. Very large branders.

ESICO THERMOSTATIC CONTROL STAND



Patent Pending

TEMPERATURE: Iron can be maintained at any desired temperature while in the stand. Efficient control of the tip temperature is attained.

Years of experimental work in attempting to incorporate a thermostat in the iron itself have failed to obtain the fine degree of temperature regulation secured with this stand. When removed from the control, full current is instantly applied to the iron.

POSITIVELY IMPOSSIBLE FOR IRON TO OVERHEAT OR TO BURN OFF ITS TIN!

PROLONG: Element and tip life.

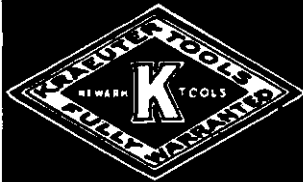
SAVE: Cost of electric current.

Permits the use of high wattage elements in small irons as they cannot overheat.

Cat. No. 5—Irons up to 1" Diameter tip.

Cat. No. 6—Irons 1" to 1 $\frac{1}{8}$ " Diameter tip.

List Price — \$6.50



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The choice of skilled mechanics



"GRIPTITE" COMBINATION PLIERS

New Pattern

These are of new design with slightly tapered nose, and are fitted with special non-slipping serrated edge wire cutters. The two larger sizes have three slip-joint adjustments which give a wider range of parallel grips on large nuts. No. 356 is furnished with the famous "Don't Slip" handle design. No. 355 is furnished with smooth handles.

No.	Length	Finish	Wt. per doz.	Price	
				per doz.	Each
356	5½ in.	Full Nickel	3½ lbs.		.80
356	6 in.	" "	5½ lbs.		1.00
356	8 in.	" "	8¾ lbs.		1.30
356	10 in.	" "	14 lbs.		1.60
355	5½ in.	Blue Temper	3½ lbs.		.90
355	6 in.	" "	5½ lbs.		1.00
355	8 in.	" "	8¾ lbs.		1.15
355	10 in.	" "	14 lbs.		1.50



COMBINATION SIDE CUTTING PLIERS

A very popular automotive combination slip-joint plier. Has side cutter suitable for cutting insulated or bare wire. Small groove in nose for holding cotter pins. No. 1973 is furnished with the famous "Don't Slip" handle design. No. 1972 is furnished with smooth handles.

No.	Length	Finish	Wt. per doz.	Price	
				per doz.	Each
1973	5½ in.	Full Nickel	3½ lbs.		1.70
1973	7 in.	" "	7¼ lbs.		2.00
1972	5½ in.	Blue Temper	3½ lbs.		1.40
1972	7 in.	" "	7¼ lbs.		1.65



RADIO PLIERS

Diagonal cutting pliers specially developed for close cutting in radio and radio tube work.

No.	Length	Finish	Wt. per doz.	Price	
				per doz.	Each
2612	6 in.	Blue Temper	3 lbs.		1.85

This is only a partial listing of Kraeuter Pliers. Send for Catalog.



COMBINATION PLIERS

These well-made sturdy pliers are designed to meet the demand for medium priced good quality pliers that will give good service.

No.	Length	Finish	Wt. per doz.	Price	
				per doz.	Each
36	6 in.	Dull Nickel	6 lbs.		.30
38	8 in.	" "	7 lbs.		.45
310	10 in.	" "	12¾ lbs.		.65
46	6 in.	Full Nickel	6 lbs.		.50
48	8 in.	" "	7 lbs.		.75



ELECTRICIANS' DIAGONAL CUTTING PLIERS

Longer jaws and made especially for close cutting. Forged from special plier steel and finely fitted for exact work.

No.	Length	Finish	Wt. per doz.	Price	
				per doz.	Each
4601	4½ in.	Full Polished	1½ lbs.		1.70
4601	5 in.	" "	2¾ lbs.		1.85
4601	5½ in.	" "	3¼ lbs.		2.00
4601	6 in.	" "	3¾ lbs.		2.10
4601	7½ in.	" "	6 lbs.		2.40
4501	4½ in.	Blue Temper	1½ lbs.		1.35
4501	5 in.	" "	2¾ lbs.		1.50
4501	5½ in.	" "	3¼ lbs.		1.60
4501	6 in.	" "	3¾ lbs.		1.75
4501	7½ in.	" "	6 lbs.		2.00

Also Furnished in K Brand.

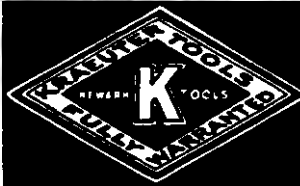


EXTRA HEAVY DIAGONAL CUTTING PLIERS

Designed to meet the demand for a larger and more powerful diagonal cutter. Is practically unbreakable. Joint is extra heavy and rigid.

No.	Length	Finish	Wt. per doz.	Price	
				per doz.	Each
4611	6½ in.	Full Polished	5¾ lbs.		2.10
4610	6½ in.	Blue Temper	5¾ lbs.		1.80

Also Furnished in K Brand.



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HY-POWER SIDE CUTTING PLIERS

Useful for heavy duty jobs of wire cutting and twisting. Very strongly constructed and have extra tough jaws.

No.	Length	Finish	Wt. per doz.	Price Each
1801	6 in.	Blue Temper	5¼ lbs.	1.75
1801	7 in.	" "	7½ lbs.	2.00
1801	8½ in.	" "	11¼ lbs.	2.25

Also Furnished in K Brand.



"SURE-GRIP" IGNITION PLIERS New Pattern

A handy little plier to replace 10- or 12-piece sets of ignition wrenches. Has bulldog grip, slip joint adjustment, serrated teeth, narrow nose, and thin, strong, shaped handles.

Can be used to advantage on distributor, generator, magneto, carburetor, dash panel connections, and on any small or awkwardly placed nuts.

Instantly adjustable and a marvelous time saver.

No.	Length	Finish	Wt. per doz.	Price Each
643	5 in.	Blue Temper	1 lb.	1.00



END CUTTING NIPPERS

A strong, easy-cutting single joint nipper. The jaw is compact and the rivet lies close to the edge, affording maximum leverage. A quick-action tool, forged of high-grade tool steel with sharp, enduring cutters.

No.	Length	Finish	Wt. per doz.	Price Each
1851	5 in.	Full Polished	4½ lbs.	1.45
1851	6 in.	" "	6 lbs.	1.65
1851	7 in.	" "	8 lbs.	1.95
1851	8 in.	" "	10½ lbs.	2.25

Spring in Handle30



No. 4206



SIDE CUTTING PLIERS

Used extensively for electrical and general wiring work. Strongly constructed with sturdy wire cutters. A very popular style.

No.	Length	Finish	Wt. per doz.	Price Each
1831	4 in.	Full Polished	1½ lbs.	1.40
1831	5 in.	" "	2¼ lbs.	1.60
1831	6½ in.	" "	4¾ lbs.	1.85
1831	7 in.	" "	6¾ lbs.	2.00
1831	8 in.	" "	8¼ lbs.	2.25
1830	4 in.	Blue Temper	1½ lbs.	1.15
1830	5 in.	" "	2¼ lbs.	1.25
1830	6½ in.	" "	4¾ lbs.	1.45
1830	7 in.	" "	6¾ lbs.	1.60
1830	8 in.	" "	8¼ lbs.	1.75

Also Furnished in K Brand.



"DREADNOUGHT" LINEMEN'S PLIERS Heavy Duty—Lap Jointed

Powerful and durable—wonderful strength and cutting power. Drop forged—perfectly hardened, accurately fitted.

No.	Length	Finish	Wt. per doz.	Price Each
2801	6 in.	Full Polished	5¼ lbs.	2.25
2801	7 in.	" "	7½ lbs.	2.50
2801	8½ in.	" "	11¼ lbs.	3.00



WITH STRIPPING NOTCH

Extensively used on electrical outside lighting fixtures, for cutting and stripping the asbestos insulation on 14 gauge wire without injury to the wire.

No.	Length	Finish	Wt. per doz.	Price Each
S2801	6 in.	Full Polished	5¼ lbs.	2.35
S2801	7 in.	" "	7½ lbs.	2.60
S2801	8½ in.	" "	11¼ lbs.	3.10

DIAGONAL HARD WIRE CUTTERS

This tool was designed for cutting hardened wire. Will cut up to 1/16" diameter. Also suitable for general use.

No.	Length	Finish	Wt. per doz.	Price Each
4206	6 in.	Blue Temper	4½ lbs.	1.85

THIS IS ONLY A PARTIAL LISTING OF KRAEUTER TOOLS

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KRAEUTER "COHARDITE" INSULATED PLIERS

SAFETY TESTED FROM 10,000 TO 20,000 VOLTS

Invaluable to television and radio mechanics, linesmen, metermen and all electrical workers

— INCREASED FACTOR OF SAFETY —

KRAEUTER "COHARDITE" INSULATED HANDLES

1. Resist extreme temperatures, moisture, oil and acid fumes.
2. Will not peel or crack.
3. Tough, rugged, and will stand abuse.
4. Tested to full di-electric test before leaving factory.
5. Approved by safety engineers wherever used.



KRAEUTER "COHARDITE" INSULATED LINEMEN'S PLIERS Heavy Duty-Lap Jointed

Powerful and durable—wonderful strength and cutting power. Drop-forged, perfectly hardened, accurately fitted.

No. IN-2801	Length 8½"	Wt. per Doz. 13 lbs.	Price Each \$4.50
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KRAEUTER "COHARDITE" INSULATED NEEDLE NOSE SIDE CUTTING PLIERS

A fine, slender nosed, taper point plier. Handy on all ignition work and on generators, starters, switch work, etc.

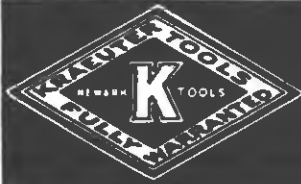
No. IN-1661	Length 6"	Wt. per Doz. 4 lbs., 10 oz.	Price Each \$3.00
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KRAEUTER "COHARDITE" INSULATED DIAGONAL CUTTING PLIERS

Longer jaws and made especially for close cutting. Forged from special plier steel and finely fitted for exact work.

No. IN-4501	Length 5"	Wt. per Doz. 4 lbs.	Price Each \$3.00
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KRAEUTER

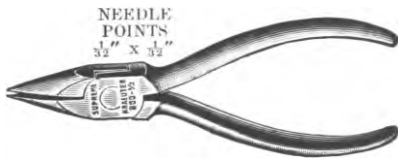
The choice of skilled mechanics

Professional Line

SPECIAL NEEDLE-POINT PLIERS

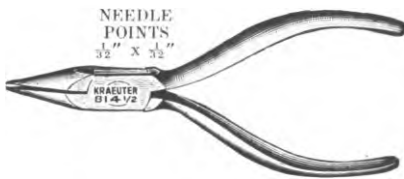
FOR RADIO - ELECTRICAL - OPTICAL AND JEWELRY WORK

These extra fine needle-point pliers are specially designed for light professional use in the radio, electrical, optical and jewelry field. They are invaluable where delicate adjustments have to be made. (Nose of these Pliers Not Guaranteed.)



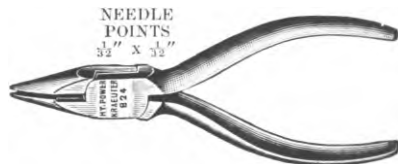
Short Nose Extra-fine Needlepoints—without cutter.

No.	Length	Finish	Wt. per doz.	Price Each
800	4 in.	Full Polished	1½ lbs.	\$1.35
800	4½ in.	" "	1¾ lbs.	1.45
800	5 in.	" "	2¼ lbs.	1.55
800	5½ in.	" "	3 lbs.	1.65
800	6 in.	" "	3¾ lbs.	1.75



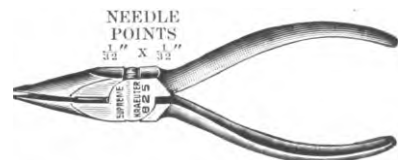
Extra fine points and narrow jaw—fine nose—without cutter.

No.	Length	Finish	Wt. per doz.	Price Each
814	4½ in.	Full Polished	1½ lbs.	\$1.45



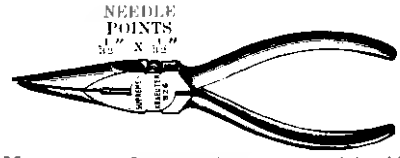
Short-Nose extra fine needlepoint—with side cutter.

No.	Length	Finish	Wt. per doz.	Price Each
824	4½ in.	Full Polished	1½ lbs.	\$1.65



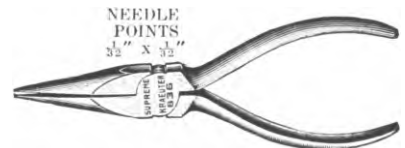
Short-Nose extra fine needlepoint—with side cutter.

No.	Length	Finish	Wt. per doz.	Price Each
825	5 in.	Full Polished	2¼ lbs.	\$1.75



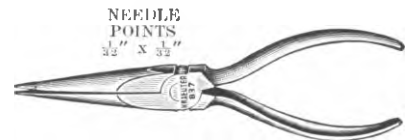
Medium-Nose extra fine needlepoint—with side cutter.

No.	Length	Finish	Wt. per doz.	Price Each
826	6 in.	Full Polished	3 lbs.	\$1.85



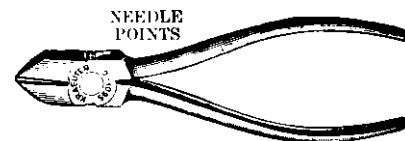
Medium-Nose extra fine needle points—without cutter.

No.	Length	Finish	Wt. per doz.	Price Each
836	6 in.	Full Polished	2¾ lbs.	\$1.60



Long-Nose extra fine needlepoints—without cutter.

No.	Length	Finish	Wt. per doz.	Price Each
837	7 in.	Full Polished	3¾ lbs.	\$1.75
827	Same with Cutter		3¾ lbs.	2.00



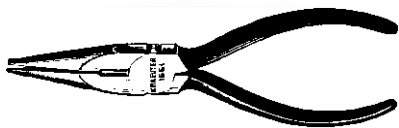
Radio and Electrical Fine Nose Diagonal.

No.	Length	Finish	Wt. per doz.	Price Each
5601	4½ in.	Full Polished	2 lbs.	\$1.90
5601	5 in.	" "	2¾ lbs.	2.10
5601	5½ in.	" "	3¼ lbs.	2.25
5601	6 in.	" "	3¾ lbs.	2.35



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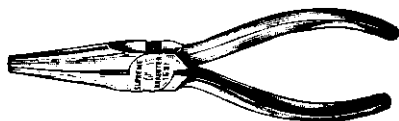


NEEDLE NOSE SIDE CUTTING PLIERS

A fine slender nosed, tapered point plier. Handy on all ignition work and on generators, starters, switch work, etc.

No.	Length	Finish	Wt. per doz.	Price Each
1661	6 in.	Blue Temper	3½ lbs.	1.55
1671	Same without cutter		3½ lbs.	1.30
1662	6 in.	Polished Steel	3½ lbs.	1.75
1672	Same without cutter		3½ lbs.	1.50

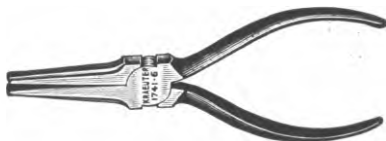
Also Furnished in K Brand.



LONG NOSE SIDE-CUTTING CHAIN PLIERS

The long slender jaws are milled inside, and the side-cutters are built to cut. An easy operating plier with sturdy joint.

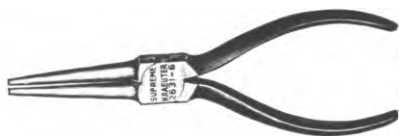
No.	Length	Finish	Wt. per doz.	Price Each
1681	6 in.	Blue Temper	3¾ lbs.	1.60



EXTRA LONG REACH FLAT NOSE PLIERS

The long, flat nose is nicely tapered and beveled. No cutter. Adaptable to all the uses of a flat nose plier with the added feature of an extremely long nose.

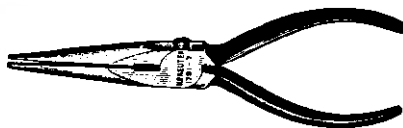
No.	Length	Finish	Wt. per doz.	Price Each
1741	6 in.	Blue Temper	3 lbs.	1.40
1751	Same with Cutter		3 lbs.	1.65



FINE ROUND NOSE—EXTRA LONG PLIERS

Specially developed for radio and radio tube work. Long round nose jaws milled on the end. Extensively used by leading manufacturers.

No.	Length	Finish	Wt. per doz.	Price Each
2631	6 in.	Blue Temper	2¾ lbs.	1.50



EXTRA LONG NOSE PLIERS

Very popular with auto mechanics and repair men. Especially good for radiator repair work and in places difficult to reach. Used on auto ignition work on generators, starters, switch work, etc., and on speedometer repair work. Length of jaw 2¾ in.

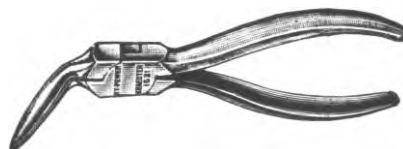
No.	Length	Finish	Wt. per doz.	Price Each
1781	7 in.	Blue Temper	3 lbs.	1.75
1771	Same without Cutter		3 lbs.	1.40
1782	7 in.	Polished Steel	3 lbs.	2.00
1772	Same without cutter		3 lbs.	1.65



LONG NOSE CHAIN PLIERS

Designed for use as a half-round nose, chain nose and flat nose plier. Made without cutter.

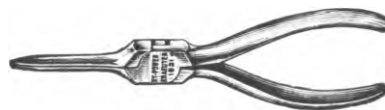
No.	Length	Finish	Wt. per doz.	Price Each
1691	6 in.	Blue Temper	2¾ lbs.	1.50



CURVED NEEDLE NOSE PLIERS

Spring tempered, long curved nose pliers for unusual jobs. Used for any awkward job.

No.	Length	Finish	Wt. per doz.	Price Each
1631	5½ in.	Blue Temper	2¼ lbs.	1.70
1632	5½ in.	Polished Steel	2¼ lbs.	1.90



LONG FINE NEEDLE NOSE PLIERS

This pattern is especially made for difficult and odd jobs where no other plier will answer. Especially useful for auto mechanics and vulcanizers. Its capacity for fine work is unusual. The long, fine nose is very carefully tempered.

No.	Length	Finish	Wt. per doz.	Price Each
1621	6 in.	Blue Temper	2¼ lbs.	1.60
1622	6 in.	Polished Steel	2¼ lbs.	1.75

THIS IS ONLY A PARTIAL LISTING OF KRAUTER TOOLS

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OFFSET SCREW DRIVERS

Invaluable for reaching screws in difficult places.

No.	Stock	Length	Wt. per doz.	Price Each
497	1/4 in.	4 1/2 in.	1 lb.	.50
	3/8 in.	8 in.	3 1/4 lbs.	.60
97	1/8 in.	6 in.	2 3/8 lbs.	.50



STEEL WOOD CHISELS

An exclusive Kraeuter design, with beveled edges and bit, making it easier to operate in heavy wood. The handle is slightly raised to clear the hand when using.

Forged from special chisel steel, perfect temper, highly polished face, side of grip, bevels and bit. Number and size stamped on shank.

No.	Cut	Stock	Length	Weight per Doz.	Price Each
403	5/8 in.	1/2 in.	11 in.	6 lbs.	.65
	3/4 in.	1/2 in.	11 in.	7 lbs.	.70
1	1 in.	5/8 in.	11 in.	10 1/2 lbs.	.80
	1 1/4 in.	3/4 in.	11 in.	11 1/2 lbs.	.90
	1 1/2 in.	3/4 in.	11 in.	15 lbs.	1.00
2	1 in.	3/8 in.	12 in.	23 lbs.	1.25



COLD CHISELS

(Sold by Cutting Size)

No. 430—A lower priced trip hammer forged chisel—fine quality steel—well tempered—black finish—polished blade.

Cut	Stock	Length	Weight per Doz.	Price Each
1/8 in.	1/8 in.	5 in.	1/2 lb.	.15
1/4 in.	1/4 in.	5 in.	3/4 lb.	.15
3/8 in.	3/8 in.	5 in.	1 1/4 lbs.	.15
1/2 in.	1/2 in.	5 in.	1 3/4 lbs.	.20
3/4 in.	3/4 in.	6 in.	2 3/4 lbs.	.25
5/8 in.	1/2 in.	6 1/2 in.	4 lbs.	.30
3/4 in.	3/4 in.	7 in.	6 lbs.	.40
7/8 in.	3/4 in.	8 in.	11 1/2 lbs.	.50
1 in.	7/8 in.	8 1/2 in.	15 lbs.	.60
1 1/8 in.	1 in.	9 in.	21 lbs.	.90
1 1/4 in.	1 1/8 in.	9 1/2 in.	30 lbs.	1.20
1 1/2 in.	1 1/2 in.	12 in.	6 lbs.	.45
3/4 in.	1/2 in.	12 in.	7 3/4 lbs.	.50
5/8 in.	3/4 in.	12 in.	12 lbs.	.60
3/4 in.	3/4 in.	12 in.	16 1/2 lbs.	.80
1 in.	7/8 in.	12 in.	24 lbs.	1.00
5/8 in.	1/2 in.	18 in.	12 lbs.	.65
3/4 in.	3/4 in.	18 in.	18 lbs.	.80
7/8 in.	3/4 in.	18 in.	26 1/4 lbs.	1.15
1 in.	7/8 in.	18 in.	34 1/4 lbs.	1.50
5/8 in.	1/2 in.	24 in.	16 1/2 lbs.	.90
3/4 in.	3/4 in.	24 in.	24 lbs.	1.10
5/8 in.	3/4 in.	24 in.	36 lbs.	1.50
1 in.	7/8 in.	24 in.	48 lbs.	1.90
7/8 in.	3/4 in.	30 in.	54 lbs.	1.75
1 in.	7/8 in.	30 in.	63 lbs.	2.20
7/8 in.	3/4 in.	36 in.	73 1/2 lbs.	1.90
1 in.	7/8 in.	36 in.	75 lbs.	2.50



STAR DRILLS

These tools are drop forged from high-carbon steel, oil hardened and oil tempered on both cutting and striking end. The size and number are plainly marked on each drill. The blades have a rounded bevel which gives support to the cutting edge, and permits fast work without splintering or cracking the edge. The flutes are large enough to prevent clogging, and the blades are specially designed for ease in rotating the drill in the hole.

No.	Size Hole	Length	Wt. per Doz.	Price Each
342	1/4 x	8 in.	1 lb.	.25
	3/8 x	8 in.	1 1/2 lbs.	.28
	1/2 x	8 in.	2 1/4 lbs.	.30
	5/8 x	8 in.	2 1/4 lbs.	.32
	3/4 x	8 in.	3 1/4 lbs.	.34
	7/8 x	8 in.	4 lbs.	.36
	1 x	8 in.	4 lbs.	.38
	1 1/8 x	8 in.	5 1/2 lbs.	.45
	1 1/4 x	8 in.	8 3/4 lbs.	.52
1	1 1/2 x	8 in.	11 1/2 lbs.	.65
	1/4 x	12 in.	1 1/2 lbs.	.32
	3/8 x	12 in.	2 1/4 lbs.	.32
	1/2 x	12 in.	3 1/2 lbs.	.34
	5/8 x	12 in.	3 1/2 lbs.	.36
	3/4 x	12 in.	5 lbs.	.40
	7/8 x	12 in.	6 1/2 lbs.	.45
	1 x	12 in.	6 1/2 lbs.	.45
	1 1/8 x	12 in.	8 3/4 lbs.	.55
	1 1/4 x	12 in.	12 3/4 lbs.	.70
1	1 1/2 x	12 in.	17 lbs.	.75
	1 1/8 x	12 in.	23 lbs.	1.00
	1 1/4 x	12 in.	29 lbs.	1.20
	1 1/2 x	12 in.	30 1/2 lbs.	1.90
	3/8 x	18 in.	5 1/4 lbs.	.40
	1/2 x	18 in.	5 1/4 lbs.	.45
	5/8 x	18 in.	7 1/2 lbs.	.50
	3/4 x	18 in.	9 1/2 lbs.	.60
	7/8 x	18 in.	9 1/2 lbs.	.60
	1 x	18 in.	12 3/4 lbs.	.70
	1 1/8 x	18 in.	19 lbs.	.80
1	1 1/4 x	18 in.	26 lbs.	1.00
	1 1/8 x	18 in.	36 lbs.	1.20
	1 1/4 x	18 in.	46 lbs.	1.45
	1 1/2 x	18 in.	47 lbs.	2.15
	1/2 x	24 in.	9 3/4 lbs.	.65
	5/8 x	24 in.	13 lbs.	.70
	3/4 x	24 in.	13 lbs.	.70
	7/8 x	24 in.	16 1/2 lbs.	.75
	1 x	24 in.	25 1/2 lbs.	.90
1	1 1/8 x	24 in.	36 lbs.	1.10
	1 1/4 x	24 in.	51 lbs.	1.40
	1 1/4 x	24 in.	64 lbs.	1.60
	1 1/2 x	24 in.	66 lbs.	2.40



PIN PUNCHES

(Sold by Point and Length Size)

Accurately machined precision tools made by an improved method which insures perfectly square ends. Number and size stamped on each tool.

No. 291	Number	Size	Length	Price Each					
0	1	2	3	4	5	6	7	8	9
		1/8	3/8	1/2	5/8	3/4	7/8	1	1 1/8
		1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3
		4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2
		8	8	8	8	6	6	5	5
		10	10	10	10	10	9	9	9

* Due to extremely fine points—these sizes are not guaranteed.



OCTAGON CENTER PUNCHES

Black Enameled Body with Polished Bit.

No.	Stock	Length	Wt. per doz.	Price Each
23	5/8 in.	4 1/2 in.	1 lb.	.25
	3/4 in.	4 1/2 in.	1 3/8 lbs.	.30
	7/8 in.	4 1/2 in.	2 1/4 lbs.	.35
	1 1/8 in.	4 1/2 in.	2 3/8 lbs.	.40
	1 1/4 in.	6 in.	1 3/8 lbs.	.30
	1 1/2 in.	6 in.	2 lbs.	.35
	1 3/4 in.	6 in.	2 3/4 lbs.	.40
	1 7/8 in.	6 in.	3 1/2 lbs.	.45



OCTAGON PRICK PUNCHES

Black Enameled Body with Polished Bit.

No.	Stock	Length	Wt. per doz.	Price Each
24	5/8 in.	4 1/2 in.	1 lb.	.25
	3/4 in.	4 1/2 in.	1 1/2 lbs.	.30
	7/8 in.	4 1/2 in.	2 1/8 lbs.	.35
Long Slender Pattern				
24	5/8 in.	6 in.	1 3/8 lbs.	.30
	3/4 in.	6 in.	2 lbs.	.35
	7/8 in.	6 in.	2 3/4 lbs.	.40
	1 1/8 in.	6 in.	3 1/2 lbs.	.45
25	3/4 in.	6 in.	2 lbs.	.35



WOOD FLOOR CHISELS

Thin Blade

Used by electricians, plumbers and other workmen for taking up floor boards without damage.

Forged from special chisel steel—perfectly hardened—spring tempered.

Blade is ground thin, with sharp edge, and extremely gradual bevel.

No.	Width of Blade	Length	Wt. per doz.	Price Each
333	2 in.	8 in.	10 1/4 lbs.	1.60
	2 1/2 in.	8 in.	10 3/4 lbs.	1.60
	3 in.	8 in.	11 lbs.	1.60
	2 in.	12 in.	14 1/4 lbs.	1.60
	2 1/2 in.	12 in.	15 3/4 lbs.	1.60
	3 in.	12 in.	16 lbs.	1.60

THIS IS ONLY A PARTIAL LISTING OF KRAEUTER TOOLS

SEND FOR CATALOG



T O O L S



De Luxe

With Lumarith SUPER-GRIP Handles. Substantially Non-Inflammable



CHROME — NICKEL — MOLYBDENUM BLADES

Blade Length	Blade Diameter	Weight Per Dozen	No.	List, Each
4"	1/8"	2 1/4 lbs.	R144	\$1.15
6"	3/16"	2 3/4 lbs.	R146	1.25
8"	1/4"	4 lbs.	R5166	1.55
4"	3/8"	1 3/4 lbs.	R5168	1.75

Electric or Radio



Blade Length	Blade Diameter	Weight Per Dozen	No.	List, Each
4 1/2"	3/16"	1 1/4 lbs.	R412	\$.95
6 1/2"	1/8"	1 1/2 lbs.	R612	1.05
8 1/2"	3/16"	2 3/8 lbs.	R812	1.25
10 1/2"	1/4"	2 5/8 lbs.	R1012	1.55

MINIATURE—Magnetized

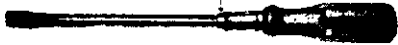


No. 1620. Twelve miniature de luxe screw drivers mounted on display card; each with pocket clip. Four each of 1 1/2", 2 1/4" and 3 1/4" with 1/8" round blades. Weight per doz. cards, 9 lbs. List per card \$3.75

SUPER-GRIP

No. F215—Machinists' Type
BLADE THROUGH HANDLE

Steel bushing welded on blade.



U. S. Pat. No. 2,046,733

Blade Length	Blade Diameter	Weight Per Dozen	No.	List, Each
4"	3/8"	2 1/2 lbs.	F215	\$.45
6"	1/2"	2 3/4 lbs.	F215	.50
8"	5/8"	4 1/2 lbs.	F215	.65
10"	3/4"	7 3/4 lbs.	F215	.75
12"	7/8"	8 lbs.	F215	.95
12"	1"	9 lbs.	F215	1.15

No. F216—Electric or Radio—Wood Handle



Blade Length	Blade Diameter	Weight Per Dozen	No.	List, Each
4 1/2"	3/16"	1 1/4 lbs.	F216	\$.25
6 1/2"	1/8"	1 1/2 lbs.	F216	.30
8 1/2"	3/16"	2 lbs.	F216	.50
10 1/2"	1/4"	3 1/4 lbs.	F216	.65
12 1/2"	3/8"	3 3/4 lbs.	F216	.80



THORITE

Thorite insulated handles, molded under heavy pressure, on tool steel blades. Hexagon guard prevents fingers slipping on blade in electrical work.

Patent No. 1,949,486

No. W120—Machinists' Type



Blade Length	Blade Diameter	Weight Per Dozen	No.	List, Each
4"	1/8"	1 3/4 lbs.	W120	\$.30
6"	3/16"	2 1/2 lbs.	W120	.40
8"	1/4"	3 lbs.	W120	.45
10"	5/16"	4 3/4 lbs.	W120	.55

No. W220—Electric or Radio



Blade Length	Blade Diameter	Weight Per Dozen	No.	List, Each
3 1/2"	3/16"	1 1/2 lbs.	W220	\$.30
4 1/2"	1/8"	2 lbs.	W220	.40
6 1/2"	3/16"	2 1/2 lbs.	W220	.50
8 1/2"	1/4"	3 lbs.	W220	.65

No. W2201—Electric or Radio
INSULATED BLADE



Blade Length	Blade Diameter	Weight Per Dozen	No.	List, Each
4 1/2"	3/16"	2 lbs.	W2201	\$.45
6 1/2"	1/8"	2 1/2 lbs.	W2201	.55
8 1/2"	3/16"	3 lbs.	W2201	.70

No. W620—Miniature Display



Magnetized

No. W620. Twelve miniature Whale black thorite handle screw drivers mounted on card, each with pocket clip. Four each 1 1/2" 2 1/4" and 3 1/4" lengths. Weight per dozen cards, 9 lbs. List per card \$1.50



T O O L S

Hack Saw Frames



No. 61. An excellent frame for the electrician and radio mechanic. Steel tail piece molded in checkered composition handle. Reinforced back gives additional strength. Adjustable for 8" to 12" blades; blade may be faced in four directions. Nickel-plated stock .165" x $\frac{5}{8}$ "; depth 3 $\frac{1}{8}$ "; complete with 10" blade. One in a box. Weight per dozen, 17 lbs. List each\$1.25



No. 155B. Horizontal frame with black hardwood handle; has wing nut blade adjustment. Reinforced back. Adjustable for 8" to 12" blades; blade may be faced in four directions. Nickel-plated stock .165" x $\frac{5}{8}$ "; with blade. One in a box. Weight per dozen, 11 lbs. List each\$5.00

Tom Thumb



No. 3. The "Tom Thumb" frame—sold all over the world. The handiest and most compact saw obtainable. Made of nickel-plated $\frac{1}{4}$ " steel wire. With No. 270 blade. One dozen in a box. Weight per dozen, 2 $\frac{1}{2}$ lbs. List each.....\$2.00

Keyhole Saws



No. F33. Pistol grip, and a thumb rest, gives a firm hold; nicely finished in silver and black lacquer; 7 $\frac{1}{2}$ " interchangeable, 18-tooth hack saw blade, No. F33B flexible back, cuts all metals, all woods, plaster, wall board, conduit, etc. One on a card, one dozen cards in a box. Weight per dozen, 3 lbs. List each\$3.00

Hack Saw Blades



Flexible Hand Blades

Made especially for rough usage. Recommended for Automotive Mechanics, Plumbers and Electricians for use on mild steel, pipe, tubing, BX cable, conduit, etc. Made of tungsten alloy steel.

Number	List per Dozen	Length	Width	Thick-ness	Teeth Per in.	Weight per Gross lbs. oza.
1024F	\$.95	10"	$\frac{1}{2}$ "	.025	24	5 — 13
1032F	.95	10"	$\frac{1}{2}$ "	.025	32	5 — 18

Hack Saw Blades

WHALE TOM THUMB

Tom Thumb Blades

No. 270. Pin type, for Tom Thumb frame, and other frames of this type; 5 $\frac{1}{2}$ " long, $\frac{1}{4}$ " wide, .015 thick, 32 teeth. Packed one gross in a box. Weight per gross, 1 lb. List per dozen.....\$1.75

Keyhole Hack Saw Blades



No. F33B. For No. F33 Keyhole Hack Saw, and saws of this type; flexible, 7 $\frac{1}{2}$ " long, $\frac{3}{4}$ " wide at heel, $\frac{1}{8}$ " wide at point, .032 thick, 18 teeth. Packed one dozen in a bundle, one gross in a box. Weight per gross, 5 $\frac{1}{4}$ lbs. List per dozen\$1.80



Spiral Screw Drivers



A Quality Tool—Does Everything
Popular in Price

The useless, expensive, reversible feature has been eliminated—reducing cost. It is impractical to push against a screw coming out.

Automatic screw drivers are used rigid to take out screws. The Whale is made rigid by holding the chuck in left hand, turning the handle toward you with the right hand.

FAST! — LIGHT! — STRONG!

No. W71. Length extended with bit 14 $\frac{3}{4}$ "; closed 9"; complete with one bit. Each stroke turns screw 2 $\frac{1}{2}$ times. Packed one in a box. List, each \$1.25

No. W81. Length extended, with bit 21", closed 13 $\frac{1}{4}$ " complete with two bits. Each stroke turns screw 5 times. Packed one in a box. List, each \$1.90

No. W91. Length extended, with bit 24"; closed 15 $\frac{1}{2}$ "; complete with three bits. Each stroke turns screw 4 $\frac{1}{2}$ times. Packed one in a box. List, each \$2.50

DRAKE



RADIO IRONS



60 WATT IRON WITH 3/8" TIP

An excellent iron for light work. Highest quality Nichrome wire used in porcelain element. Equipped with 6 ft. heater cord, rubber plug and small stand. Gun metal finish.

No. 315 List \$1.10 Net Price \$.66
Element — List \$0.50 Tip — List \$0.50
 Net \$.30 Net \$.30
Net Weight 1 lb.



65 WATT IRON WITH 1/4" TIP

An excellent iron for light work and tight corners. Highest quality Nichrome wire wound on amber mica. Complete with 6 ft. heater cord, rubber plug and small stand. Gun metal finish.

No. 317 List \$1.75 Net Price \$1.05
Element — List \$1.30 Tip — List \$0.40
 Net \$.78 Net \$0.24
Net Weight 1 lb.

100 WATT IRON WITH 3/8" TIP

SAME DESIGN AS No. 317

Recommended for the radio amateur. Highest quality Nichrome wire wound on amber mica. Complete with 6 ft. heater cord, rubber plug and small stand. Gun metal finish.

No. 320 List \$2.75 Net Price \$1.65
Element — List \$1.50 Tip — List \$0.50
 Net \$.90 Net \$.30
Net Weight 1 1/2 lbs.



125 WATT IRON WITH 3/8" TIP

Recommended for the experimenter who desires an extra hot iron. Highest quality Nichrome wire wound on amber mica. Complete with 6 ft. heater cord, rubber plug and small stand. Gun metal finish.

No. 321 List \$3.75 Net Price \$2.25
Element — List \$1.50 Tip — List \$0.50
 Net \$0.90 Net \$.30
Net Weight 2 lbs.

150 WATT IRON WITH 1/2" TIP

SAME DESIGN AS No. 321

Recommended for light medium work such as chassis spotting. Highest quality Nichrome wire wound on amber mica. Complete with 6 ft. heater cord, rubber plug and small stand. Gun metal finish.

No. 322 List \$4.50 Net Price \$2.70
Element — List \$2.50 Tip — List \$0.60
 Net \$1.50 Net \$0.36
Net Weight 2 lbs.



60 WATT IRON WITH 1/4" TIP

An Extra Small Iron for Midget Sets

Highest quality Nichrome wire wound on amber mica. Complete with 6 ft. heater cord, rubber plug and No. 12 "Magic Cup" stand. Fully nickel plated.

No. 400 List \$4.00 Net Price \$2.40
Element — List \$2.00 Tip — List \$0.40
 Net \$1.20 Net \$.24
Net Weight 2 lbs.



80 WATT IRON WITH 3/8" TIP

Recommended for light radio work. Highest quality Nichrome wire wound on amber mica. Complete with 6 ft. heater cord, rubber plug and No. 12 "Magic Cup" Stand. Fully nickel plated.

No. 225 List \$3.15 Net Price \$1.89
Element — List \$2.00 Tip — List \$0.50
 Net \$1.20 Net \$.30
Net Weight 1 1/2 lbs.

100 WATT IRON WITH 3/8" TIP

SAME DESIGN AS No. 225

Recommended for general radio work. Highest quality Nichrome wire wound on amber mica. Complete with 6 ft. heater cord, rubber plug and No. 12 "Magic Cup" Stand. Fully nickel plated.

No. 325 List \$3.75 Net Price \$2.25
Element — List \$2.50 Tip — List \$0.50
 Net \$1.50 Net \$.30
Net Weight 1 1/2 lbs.



125 WATT IRON WITH 3/8" TIP

AN EXTRA HOT IRON FOR SERVICE MEN. Highest quality Nichrome wire wound on amber mica. Complete with 6 ft. heater cord, rubber plug and No. 12 "Magic Cup" Stand. Fully nickel plated.

No. 325 Special List \$4.50 Net \$2.70
Element — List \$2.50 Tip — List \$0.50
 Net \$1.50 Net \$.30
Net Weight 2 lbs.

200 WATT IRON WITH 5/8" TIP

SAME DESIGN AS No. 325 SPECIAL

Recommended for medium heavy work. Highest quality Nichrome wire wound on amber mica. Complete with 6 ft. heater cord, rubber plug and No. 10 Stand. Fully nickel plated.

No. 425 List \$7.50 Net Price \$4.50
Element — List \$3.50 Tip — List \$0.80
 Net \$2.10 Net \$.48
Net Weight 2 lbs.

DRAKE



Industrial IRONS



80 WATT IRON WITH 3/8" TIP

Recommended for fine instruments, light telephone and other light soldering. Elements wound with Nichrome V on high-grade amber mica. Complete with 6 ft. cord and No. 12 "Magic Cup" Stand.

No. 450	List \$4.50	Net Price \$3.17
Element —	List \$2.50	Tip — List \$0.50
	Net \$1.87	Net \$.37

Net Weight 1 1/2 lbs.



100 WATT IRON WITH 3/8" TIP

For switch boards, radio and other light manufacturing. Elements wound with Nichrome V on high-grade amber mica. Complete with 6 ft. cord and No. 12 "Magic Cup" Stand.

No. 600	List \$6.00	Net Price \$4.50
Element —	List \$2.75	Tip — List \$0.50
	Net \$2.06	Net \$.37

Net Weight 2 lbs.



100 WATT IRON

ONLY 10" OVERALL

For switch boards, radio and other light manufacturing. 3/8" tip. Elements wound with Nichrome V on high-grade amber mica. Complete with 6 ft. cord and No. 12 "Magic Cup" Stand.

No. 600-10	List \$6.50	Net Price \$4.87
Element —	List \$2.75	Tip — List \$0.50
	Net \$2.06	Net \$.37

Net Weight 2 lbs.



SPEED UP PRODUCTION WITH THE

No. 600 SPECIAL

A 140 WATT IRON WITH 3/8" TIP

Recommended for high speed soldering on radio sets. Elements wound with Nichrome V on high-grade amber mica. Complete with 6 ft. cord and No. 12 "Magic Cup" Stand.

No. 600 SPECIAL,	List \$7.00; Net Price \$5.25
Element —	List \$3.00
	Net \$2.25
Tip —	List \$0.50
	Net \$.37

Net Weight 2 lbs.

DOUBLE THE LIFE OF YOUR IRON
with the

DRAKE VARIABLE HEAT CONTROL



KEEPS
YOUR TIP
PROPERLY
TINNED

•
PAYS
FOR
ITSELF
WITHIN
A SHORT
TIME

With this control you can keep your iron warm at low cost. A flip of the switch and the iron is ready for use in a few moments. For use with any Soldering Iron not exceeding 150 Watts Input. 115 Volts A. C. or D. C. only.

No. 300—Heat Control	List Price \$3.50
	Net Price \$2.10

Net weight 3 lbs.



DRAKE "MAGIC CUP" SOLDERING STAND

The most practical soldering stand ever devised. A twist of the wrist and all oxide disappears. Furnished with all Drake Irons shown on this catalog sheet, with the exception of Nos. 315, 317, 320 and 425 irons.

No. 12	List \$0.50	Net Price \$0.30
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GENERAL



CEMENT

Radio Cements - Paints

RADIO SERVICE SOLVENT

"Cleans and Dissolves"

Specially prepared for loosening cement on speaker cones, etc. Is also used as a thinner for G-C Service Cement.

No.	Net Price
312—2 oz. bottle	\$.021
314—4 oz. bottle	.30
316—6 oz. economy bottle	.39
318—8 oz. economy bottle	.45
3116—1 pt. economy bottle	.75



RADIO SERVICE CEMENT

The Best Cement for Speaker and Radio Work. Especially suitable for cementing replacement cones and repairing rattling and torn cones. Also used on glass, to seal adjustments, hold wires in place, etc. Dependable, Vibration-Proof, Water-proof, and Fast-Drying.

No.	Net Price
302—2 oz. bottle, brush attached to cap	\$.030
304—4 oz. economy bottle	.54
306—6 oz. economy bottle	.75
308—8 oz. economy bottle	.96
3016—1 pt. bottle	1.80



FILM SPICING CEMENT

High quality fast drying Cement specially prepared for splicing movie camera film.



No.	Net Price
331—1 oz. size	\$0.15
332—2 oz. size	.27

BAKELITE CEMENT

Prepared for cementing Bakelite to Bakelite or Bakelite to other materials. Useful for broken knobs, molded cabinets, etc.



No.	Net Price
322—2 oz. bot.	\$.21
328—Half Pint	.66
3216—Pint	1.20

CEMENT & SOLVENT KIT

Kit consists of 1 bottle of our famous Service Cement and 1 bottle of Service Solvent. Handy Kit to carry with you.



No.	Net Price
343	\$0.30

SPEAKER REPAIR CEMENT IN TUBES

This is our regular service cement put up in a handy tube. Makes a good, general-purpose, waterproof glue. Also useful for speakers, cones, coils, etc.



No.	Net Price
342	\$0.25

TOUCH-UP COLOR CODING KIT

Kit of brilliant enamels for coding parts, resistors, coils, etc. Also for touching up and improving appearance of equipment. Colors: Red, Green, Blue, and Yellow. Solvent and brushes included.



No.	Net Price
675	\$0.30

R.M.A. COLOR CODING KIT

Complete Kit of all of the standard RMA colors: Black, Brown, Red, Orange, Yellow, Green, Blue, Purple, Grey and White. All colors are brilliantly alive. Brushes furnished and RMA color chart is on box. Kit is necessary for complete color coding of parts.



No.	Net Price
677	\$0.54

FROST-X

Provides a frost-like finish that is used for covering window-glass for privacy and to eliminate sun glare. Also is a desirable decorative finish for test equipment, mirrors, vases, etc. Easy to apply.



No.	Net Price
682—1/8 pt. bottle	\$.021
684—1/4 pt. can	.39
688—1/2 pt. can	.63
6816—Pint can	1.20
6832—Quart can	1.80

KRYSTAL KOAT CRYSTALLIZING LACQUER

The famous G.C. Krystal Koat lacquer. Strictly Air-Drying; forms beautiful floral pattern when dry. For chassis, panels, etc. Can be used on metal, wood or paper. Colors: Black, Gray, Brown, Green, Blue, Red. Specify color.



No.	Net Price
632—1/8 pt.	\$.021
634—1/4 pt.	.39
638—1/2 pt.	.63
6316—Pint	1.20

NOTE: Impenetro Sealer must be used for undercoat when Krystal Koat is applied over other finishes. Same price as black.

DIAL LITE COLORING

Long lasting coloring for multicolored dials. Instant drying. Bright colors of Red, Green, Blue, Amber, Purple, and Solvent. Earn extra money by selling colored dial lites. Dress up those old sets.



No.	Net Price
666—6 bts. 36	
665—5 bts. no purple	.30
661—Bot. of any color	.06
6616—Pint of any color	.90

KROME KOAT ALUMINUM PAINT

Fast drying ready mixed Aluminum Paint. Leaves Chrome-like finish. For P. A. equipment, speakers, poles, chassis, towers, etc.



No.	Net Price
612—1/8 pt.	\$.015
614—1/4 pt.	.27
618—1/2 pt.	.48
6116—Pint	.90
6132—Quart	1.35
61-G—Gallon	3.90

DECORATIVE ENAMELS

High quality Enamels for all purposes. High Gloss. Supplied in Black, Red, Brown, Green, Blue, Yellow, Ivory and White. Specify color desired.



No.	Net Price
652—1/8 pt. All colors	\$.015
654—1/4 pt. All colors	.27
658—1/2 pt. All colors	.51
6516—Pint. All colors	.96
6532—Quart. All colors	1.80

HANDY POCKET TOOL CASE



Wallet type pocket tool case; fits in the hip pocket. Will hold necessary tools required on job. Saves your pockets and the tools. Made of Genuine Leather.

No.	Net Price
703	\$0.60

FIBRELOID SPEAKER SHIMS



Handy tool for centering voice coils. Kit consists of 5 sizes of specially flexible and tough celluloid shims put up in gold-lettered snap case. Sizes marked — 20 shims to kit.

No.	Net Price
702	\$0.36

SWEDISH STEEL SPEAKER SHIMS



The best shims for centering voice coils. With steel shims adjustments can be made in a few minutes. Made of Swedish Steel, these are very flexible — a permanent tool. Kit consists of 4 sizes, put up in gold-lettered snap case. 16 shims to kit.

No.	Net Price
701	\$0.39

RUF KOAT AIR DRY WRINKLE VARNISH

The only finish that will Air Dry and give you a professional wrinkle job without baking. It is the same finish as is employed by manufacturers on P. A. Equipment, Chassis, Panels, and Racks. Easy to use. Don't experiment — use the best.



Colors: Black, Gray, Brown, Green, Red and Blue—(Specify Color)

No.	Net Price
602—1/8 pt.	\$.024
604—1/4 pt.	.42
608—1/2 pt.	.66
6016—Pint	1.20

TELEPHONE BLACK & GRAY

High grade enamel that covers well and dries fast. Black will produce an ebony black finish that is so familiar on telephone devices. Gray is a pleasing shade. Excellent for panel work and parts. Specify color.



No.	Net Price
622—1/8 pt.	\$.21
628—1/4 pt.	.63
6216—Pint	1.20

Sky-Ranger Indoor Aerial



A New Aerial Eliminator that really works. Can be used with any radio. Very high grade in appearance and performance. Sells on sight. Improves reception. It can be quickly installed by anyone.

No. 1400 Net Price \$0.60
(Selling Price \$1.00)

RADIO REPAIR LITE



Light where you want it—110v. AC or DC
Just the light for Service work in the field. Lights up those hard-to-see corners in Chassis and Refrigerators. Handy for coloring dial lite bulbs. Dip bulb in coloring and job is done.

No. 705 Net Price \$0.75

NE-O-LITE TESTER

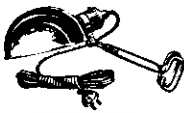
Handy, inexpensive Ne-O-Lite tester that every Radio Man should have for testing A.C. Lines, polarity of A.C. or D.C., testing for blown fuses, tracing ground line in A.C., as a R.F. indicator Spark Plug tester and 101 other uses. Can be used on 60 V. A.C. to 500 V. A.C. or D.C.



No. 706 Net Price \$0.60

RADIO CLAMP LAMP

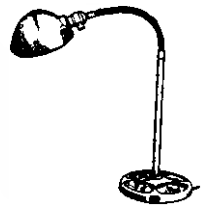
Good light is important and the Clamp Lamp is just the thing. You can clamp it onto chassis or radio cabinet and get light where you want it. Handy to carry with you.



No. 708 Net Price \$0.99

RADIO BENCH LAMP

Practical Bench Lamp specially made for Radio Work. Flexible arm can be adjusted to any position. Lamp is high enough so it can be used over radio chassis. Base has compartments for screws, knobs, and parts—a special feature in itself! This lamp will save your light bill and your eyes. Eliminates glare—a 25-watt lamp will give better light than a 100-watt over head.



No. 707 Net Price \$1.95

RUBR-SHIM



Made of Sponge Rubber, adhesive one side, sticks to anything. For rims of radio speakers, chassis, vibrators, condensers, refrigerators, etc. Prevents rattles and vibration.

No.	Net Price
1080— $\frac{3}{8}$ " 10 ft. roll	\$0.27
1081— $\frac{1}{2}$ " 10 ft. roll	.30
1082— $\frac{3}{4}$ " 10 ft. roll	.39
1083— $\frac{1}{2}$ " 50 ft. roll	1.20
1084— $\frac{3}{8}$ " 50 ft. roll	1.35
1085— $\frac{1}{4}$ " 50 ft. roll	1.50

11-PIECE RADIO SOCKET SET

Eleven pieces, $\frac{1}{4}$ " hexagon drive, put up in convenient crystal enameled steel case, as follows: $6\frac{1}{2}$ " Wood Grip Screw Driver Handle, 4" L Handle, $3\frac{1}{4}$ " Extension adapter, $\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{3}{4}$ " Hex. Sockets, $\frac{3}{8}$ " Round Knurled Socket, and $\frac{1}{4}$ " and $\frac{3}{16}$ " Square Sockets.



No. 713 Net Price \$1.05

8-PIECE VEST POCKET SOCKET SET

The smallest, though most complete, and practical 8-Piece Socket Wrench set on the market. An outstanding value. Seven sockets, $\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{3}{4}$ " Hex., $\frac{3}{8}$ " Round Knurled, $\frac{1}{4}$ " Square and 4" L Handle with two friction balls, in Baked Enamel Box.



No. 712 Net Price \$0.45

No-Metal Hex-Wrench



Hard, black fibre trimmer wrench with $\frac{1}{4}$ " hex broaching through it. If ends wear, they can be easily cut to provide a good-as-new wrench.

No.	Net Price
730—6" long	\$0.12
731—8" long	.15
732—12" long	.21

INSULATED HEX WRENCH & SCREW DRIVER



Combination hex wrench and insulated screw driver. The screwdriver may be extended from handle to provide extra long length.

No.	Net Price
735 extends from 7-13"	\$0.39
736 extends from 11-17"	.51

Escutcheon Plate Screws



Bronze plated wood screws such as are used for attaching escutcheon plates to cabinets.

No.	Net Price
1090—Assortment of 100 in a jar	\$2.27
1091—No. 1— $\frac{1}{4}$ " length, per doz.	
in envelope	.06
1092—No. 1— $\frac{3}{8}$ " length, per doz.	
in envelope	.06
1093—No. 2— $\frac{3}{8}$ " length, per doz.	
in envelope	.06

Ornamental Head Screws

A Rosette head, statuary Bronze head screw. $\frac{5}{16}$ " head with a 6-32 thread.



No.	Net Price
1095—Assortment of 50 in a jar	\$0.30
1096—Assortment of 100 in a jar	.45
1097— $\frac{3}{8}$ " length, per dozen	.06
1098—1" length, per dozen	.07
1099— $1\frac{1}{4}$ " length, per dozen	.09

Insulated Bell Staples

Saddle type insulated staples for holding wires in place and out of the way.

No.	Net Price
1701—No. 1 size ($3/16$ " x $1/2$ ").	Box of 50... \$0.09
1702—No. 1 size ($3/16$ " x $3/8$ ").	Box of 100... .15
1703—No. 5 size ($3/8$ " x $3/4$ ").	Box of 50... .09
1704—No. 3 size ($1/4$ " x $3/8$ ").	Box of 100... .15

Solder Lug Assortment

An assortment of 100 of the most necessary soldering lugs needed by the Radio Man. "Ham", or experimenter. Lugs are tinned, and neatly stamped.



No. 1920 Net Price \$2.27

SERVICE BENCH STOOLS

Comfortable Chairs for Radio Repairs
A practical chair or stool has a definite place in the service shop. Every bench should have a good stool for comfortable seating. Stools are made extra strong and will last a life time. They are all double riveted, have wood seats, and 403 Series have wood back rests.



No.	Net Price
401—Steel Stool—wood seat, 24" high	\$4.05
401-A—Steel Stool—wood seat, 26" high	4.35
401-C—Steel Stool—wood seat, 30" high	4.75
403—Chair same as 401 but with back rest, 24" high	6.05
403-A—Chair same as 402 but with back rest, 26" high	6.35
403-C—Chair same as 401 but with back rest, 30" high (30" stools have turned out foot rest)	6.75

Brass & Fibre Shafting Rods

No.	Net Price
715— $\frac{1}{4}$ "x6" Fibre	\$0.12
716— $\frac{1}{4}$ "x1" Fibre	.24
717— $\frac{3}{8}$ "x6" Fibre	.15
718— $\frac{3}{8}$ "x1" Fibre	.30
719— $\frac{1}{2}$ "x6" Brass	.09
720— $\frac{1}{2}$ "x1" Brass	.18
721— $\frac{3}{4}$ "x6" Brass	.15
722— $\frac{3}{4}$ "x1" Brass	.30

Screw Type Chassis Felt Feet



No.	Diam.	Net Price per doz.
1086	$\frac{1}{2}$ " wood screw	\$0.27
1087	$\frac{3}{8}$ " 6-32 screw	.27
1088	$\frac{3}{8}$ " wood screw	.30
1089	$\frac{3}{4}$ " 10-32 screw	.30

No-metal Insul. Adjust-ment Screw Driver



Made of Black Bone fibre. Indispensable for aligning all-wave sets. Will give long service. Ends can be re-ground.

No. 714—7" long Net Price \$0.21

Felt & Rubber Bumpers

Used on the bottoms of radios and appliances.

Felt Pads	
No.	Net Price
1070	50 in env. \$1.18
1071	100 in env. .30
Rubber Tack Bumpers	
1075	10 in env. .09
1076	25 in env. .21
1077	Per hund... .66

Snap Button Hole Plugs

The plug so popular on many sets to seal adjustments, cover holes, etc. Will fit in any material up to $1/16$ " thick.

No.	Net Price
1710—50 assorted plugs in box	\$1.20
1711— $\frac{3}{8}$ " hole dia., per 10	.15
1712— $\frac{1}{2}$ " hole dia., per 10	.21
1713— $\frac{5}{8}$ " hole dia., per 10	.24
1714— $\frac{3}{4}$ " hole dia., per 10	.24
1715— $1\frac{1}{4}$ " hole dia., per 10	.42

Snap-in Trimounts



"Take the Place of Screws"
The new fastener used on all of the latest sets. Trimounts are used to fasten dial scales, etc. to the radio chassis and also to hold the new built in antennas to the chassis or plastic cabinet. These are often lost while working on the set. Have a stock of replacements on hand.

No.	Net Price
1720—100 assorted types (4 sizes)	\$4.45
1721—100 Small	.42
1722—100 Medium	.42
1723—100 Large	.45
1724—100 Extra Large	.45

GENERAL



CEMENT

Radio Chemicals

LUBE-REX

"Prevents Corrosion"

The best contact cleaner on the market. Fine for attenuators, push button switches, all wave switches, contacts, etc. Cleans contacts and prevents corrosion. The only acceptable lubricant for Philco Mystery controls. Moisture repellent and and rust preventing—fine for use on locks, fishing reels, guns, dial mechanisms, phonograph equipment, etc. Is especially desirable since it clings to the metal.



No. Net Price
1209\$0.21
2 oz. bottle

Radio Chassis Cleaner

Make extra money by returning your customer's set thoroughly cleaned from dirt, grease and grime. Chassis Cleaner cleans Radio Chassis, Panels, Test Equipment, etc., without injuring the surface. Buy in gallon quantities and save.

No. Net Price
1238\$0.30
8 oz. bottle
1231645
16 oz. bottle
123 1/2 G90
1/2 gallon can
123-1G1.35
gallon can



KRAK FILLER



Fills holes and cracks in wood. Use on cabinets, panels, floors, furniture, etc. Easy to mix and apply. Dries very hard.

No. Net Price
1215\$0.15

Plastic Iron Cement

New filling compound for use in metals. Fills holes, patches, broken and cracked metal articles.

No. Net Price
1217\$0.15



Cabinet Repair Glue

A glue specially for use in cabinet repair work. This glue will not cut the finish on the cabinet. A high quality, fast drying glue. Non-better.



No. Net Price
394\$0.21
4 oz. bottle
39839
1/2 pint can

PARA WAX

A clear moisture-free paraffine-type wax especially suitable for radio parts. Is used to fill in and seal condensers, transformers, parts, etc. that must be protected from moisture. Simply melt and apply.

No. Net Price
5816\$0.27
Pint can



MICROPHONE CARBON GRANULES



Finest grade, polished carbon. No ash content, so can stand high currents without burning. Enough for several double button Microphones. 3 types. No. Net Price
1281—No. 100 size—highest sensitivity, best quality reproduction, but packs easily.....\$0.45
1282—No. 80 size—Best for general purpose work. Good quality reproduction and does not easily pack45
1283—No. 60 size—Best for hard use—sound trucks, etc. Fair quality reproduction less packing45

NON-STICK IRON TIP COMPOUND

A new development. Prevents iron tips from burning into soldering irons. Saves tips and irons.

No. Net Price
1201—2 oz. bottle.....\$0.21



GC SOLDERING PASTE



High quality non-corrosive paste for radio work.

No. Net Price
1207—2 oz. can.....\$0.09

Cabinet Sound Deadener

Eliminates undesirable cabinet resonance. Product easily applied, simply paint on the inside of the tone chamber or cabinet. Try this on your sound equipment or to improve the tone quality for that fussy customer.

No. Net Price
574\$0.21
1/4 pint
57839
1/2 pint
571672
Pint
57321.20
Quart



PLASTIC SOLDER

A high grade solder compound you can melt with a match. Contains everything necessary to solder. Merely apply on the joint and heat. Especially desirable for antenna work, etc., where soldering has previously been difficult because you could not use your electric iron. Goes further than solder. Strong and non-corrosive.



No. Net Price
428\$0.60
1/2 pound jar
42161.05
1 pound can
42321.95
2 pound can

Insulating & Dipping Varnish

Clear Amber Insulating Varnish for noisy or buzzing transformers, chokes, field coils, etc. Requires no baking—air dries.

No. Net Price
562\$0.15
2 oz. bottle
56427
4 oz. can
56845
1/2 Pint can
561675
Pint can



CONTACT & ATTENUATOR SERVICE KIT

"Eliminates Noise . . . Prevents Corrosion" Ideal kit for cleaning noisy attenuators, tuners, all-wave switches, variable contacts, etc. Consists of special contact cleaner and special corrosion-resistant lubricant. With this Kit you can easily clean those noisy controls and 9 times out of 10 without dismantling the chassis or control unit. It will pay to use this Kit.



No. Net Price
777—Kit\$0.60

Contact & Crystal Cleaner

Specially prepared for cleaning contacts and crystals. Cleans easily and will not injure delicate parts, crystals, etc. "Hams" and Radio Men will appreciate this item.



No. Net Price
1272—2 oz. bott. \$1.12
1274—4 oz. bott. .21
1278—8 oz. bott. .36
12716—Pint bott. .66

RADIO DIAL OIL

Special oil for lubricating dial mechanisms. Treated with graphite to assure effective lubrication. You need this for the new complicated dials.



No. Net Price
1245—4 oz. Can with Spout \$1.15

GRAFOLINE

Specially made for noisy controls, switches, and wire wound controls. Will eliminate noises on controls and contacts and on tube prongs.



No. Net Price
1202—2 oz. bottle.....\$0.15

CARBON-X

"For Noisy Carbon Controls" Here is an item every Service Man has been looking for. A practical method to touch up those worn and noisy spots on carbon volume controls. You simply apply CARBON-X over the bad spots and the job is done. When you cannot sell a replacement control you can do the job with Carbon-X.



CARBON-X is an electrical conductor

No. Net Price
1204—1 oz. bottle.....\$0.24
1205—2 oz. bottle.....36

Q-DOPE

"Made from Polystyrene"

New Ultra Low Loss Compound that is recommended for high frequency work. Absolutely no loss in Q—fast-drying—maintains coil characteristics.

No. Net Price
372—2 oz. bot.....\$0.21
378—1/2 pt. can... .63
3716—Pint can... 1.20
Special Thinner
412—2 oz. bot.....15



LIQUIDOPE

"Genuine All-Wave Coil Dope"

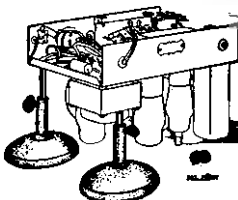
Ideal coil dope for all-wave coil windings. Clear and fast-drying. Gives coils a tough protective film that insures firmness and prevents characteristic changes due to weather.

No. Net Price
362—2 oz. bot.....\$0.21
368—1/2 pt. can... .63
3616—Pint can 1.20



RADIO CHASSIS JACKS

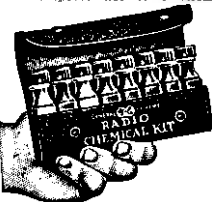
A practical tool for the Radio Bench. Have you ever tried to prop up a set with boxes, old parts, etc.? If you have, then you will appreciate these Jacks. They are quickly adjustable to fit any set, and can be used in any place. Made of metal, they will find a permanent place on your bench and will more than pay for themselves in time saved.



No. Net Price
711—Per pair\$0.75

RADIO CHEMICAL KIT

A complete kit of 8 chemical necessities in a neat leatherette pocket case. The kit makes it easy for the Serviceman to always have his chemical needs with him on the job. Includes the following 8 necessities: Service Cement, Rubber Drive Cement, Carbon-X, Grafoline, Scratch Polish, Non Slip Compound, Dial Oil, and Contact Cleaner. A handy applicator is attached to the cap of each container to make it easy to use. Servicemen should have this kit with them for every outside call.



No. Net Price
999—Radio Chemical Kit.....\$1.05
Any type refill for Kit.....12

Net

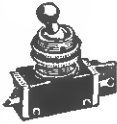
R-17



Switches - Insulation - Tape Plugs - Grommets - Tubing

GC Toggle Switches

High grade switches specially made for controlling Radio Sets, Small Motors, etc. The best switches made for the purpose. Underwriters approved. Rated at 3 amps, 125 volts. Made by H & H for G-C. Available in statuary bronze or nickel plated finish.



Description	Shank Length	Net Price
1300—S.P.S.T.	1/2"	\$0.24
1301—S.P.S.T.	1/2"	.27
1302—S.P.D.T.	1/2"	.33
1303—S.P.D.T.	1/2"	.36
1304—D.P.S.T.	1/2"	.45
1305—D.P.S.T.	1/2"	.48
1306—D.P.D.T.	1/2"	.51
1307—D.P.D.T.	1"	.54

Toggle Switch Off-On Plate
Fits toggle type switches
Nickel or Bronze
No. 1329—Net Price \$0.02

GC Rotary Switches



Best grade rotary switches specially made for placements, or construction of new apparatus. Underwriters approved. Rated at 3 amps, 125 volts.

Made by H & H for G-C.
Shafts 1 1/2" long.

Description	Shank Length	Net Price
1320—S.P.S.T.	1/2"	\$0.27
1321—S.P.S.T.	1/2"	.33
1322—S.P.D.T.	3/4"	.33
1323—S.P.D.T.	3/4"	.42
1324—D.P.S.T.	1"	.60
1325—D.P.D.T.	3/4"	.63
1326—D.P.D.T.	1"	.86

Bat Handle Toggle Switches

Same as our regular toggle switch except that the handle is bat shaped. Is specially attractive for panel and instrument boards. 1/2" shank. Nickel Plated only. Made for G-C by H & H.



No. 1330	S.P.S.T.	Net Price \$.24
No. 1331	S.P.D.T.	Net Price .33
No. 1332	D.P.S.T.	Net Price .45
No. 1333	D.P.D.T.	Net Price .57

Push Button Switch



A two circuit slow make and quick break momentary contact switch. One circuit is normally on and the other is off. Pushing the button reverses the circuits in use.

Used on many testers and analyzers.
Made by H & H for G-C. Shaft 1/2" long.
No. 1340—Net Price \$0.36

Heavy Duty Power Switch

D. P. S. T. power switch. Capacity 12 amps. at 125 volts. Available in both toggle and push-button type. The push-button type is especially adaptable as a safety switch for transformers, high frequency work, etc. Made by H & H for G-C.



1350—Toggle type	Net Price \$0.69
1351—Push-button type	1.05

Handy Snap Switch



The same switch that is used on many of the new sets. Used as a tone control, phono switch, circuit switch, etc. 1/2" wide—1 1/4" between center mounting holes.

No. 1355—S.P.S.T.	Net Price \$0.12
Plate for above switch	
No. 1356	Net Price \$0.05

Radio Friction Tape



High quality friction tape specially made for Radio Work. Narrow cut eliminates tearing and waste.

No. 870—3/8" narrow—65 ft.	Net Price \$.15
871—3/8" regular—1/2 lb.	.27

SCOTCH RADIO TAPE



Well known scotch tape for Radio Work. General purpose tape for coils, wires, etc.

No. 875—1/2" x 10 yds.	Net Price \$0.30
876—1/2" x 72 yds.	1.35

Genflex Adhesive Tape

Cloth back tape specially made for Radio and Electrical work. Excellent insulation. Waterproof, eliminates corrosion.

No. 880—1/2" x 10 yds.	Net Price \$0.30
881—1/2" x 60 yds.	1.35

INSIDE ANTENNA and LOOP WIRE



Extra flexible brown indoor antenna wire, such as used on Loop and on AC-DC sets. Will take a lot of bending.

No.	Spools	Net
840—	25 ft.	\$.15
841—	100 ft.	.51
842—	500 ft.	2.40
843—	1000 ft.	4.50

SPRING ACTION BAKELITE PLUG

Flat Handle grip approved plug. Spring contacts.



No. 860—Brown	Net Price \$0.06
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SPRING ACTION CUBE TAP

Bakelite cube tap that will stay in place because of Spring action features.

No. 862—Brown	Net Price \$0.09
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GC SOLDER IRON TIPS

Made of best grade hard drawn copper; will fit all makes Irons.

No.	diam.	long	Net
725	5/8"	4 1/2"	\$.27
726	1/2"	4 1/2"	.27
727	1/8"	4"	.36

Circuit Selector Switches



A high quality selector type switch. Used on analyzers, tube testers, and for general radio use. All single hole 3/8" mounting. 3/8" thread length and the shaft length is 15/16". Shaft is flat on one end.

No.	Description	Net Price
1360	S.P.S.T.	\$0.33
1361	S.P.D.T.	.33
1362	D.P.S.T.	.33
1363	D.P.D.T.	.33
1364	3 P.S.T.	.39
1365	3 P.D.T.	.45
1366	4 P.S.T.	.45
1367	4 P.D.T.	.54
1368	5 P.S.T.	.51
1369	5 P.D.T.	.60
1370	6 P.S.T.	.57
1371	6 P.D.T.	.66

Insulating Cambric

"Breakdown Voltage—10,000 volts"



Dry yellow varnished cambric for field coils, transformers, chokes, resistors, etc.

No. 549—Roll, over 210 sq. in.	Net Price \$0.30
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FYBEROID



No.	Description	Net Price
560—	010—240 sq. in.	\$.24

Extension Cord Sets

Brown Rubber cord with Bakelite Cube Tap and Spring action plug.



No.	Description	Net Price
890—	6 ft. cord	\$.24
891—	9 ft. cord	.28
892—	12 ft. cord	.30
893—	15 ft. cord	.34
894—	20 ft. cord	.41

RADIO CORD SETS

Handy replacement cord sets ready to attach to Radio Sets and appliances. Made of approved Brown Rubber cord, with spring action bakelite plug attached. Wires are tinned ready for use.



No. 886—7 1/2 ft. cord.	Net Price \$0.17
887—12 ft. cord.	.21

Spring Action Rubber Plug

Handle Grip approved plug. Spring contacts.



No. 861—Black	Net Price \$0.06
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Cube Cord Connection



Bakelite cord connection to fit on end of cord. Make your own extensions.

No. 863	Net Price \$0.09
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RUBBER GROMMETS



Live Rubber Grommets for protecting wires when passing through chassis or panel hole. Also make ideal cushions for condensers, sockets, etc.

No. 1040—Kit of 50 asst. Grommets.	Net Price \$0.45
1041—For 1/4" hole, 3/16" I.D.	.90
Per C	
1042—For 3/8" hole, 9/32" I.D.	1.05
Per C	
1043—For 1/2" hole, 5/8" I.D.	1.20
Per C	

Black Rubber Grommets

Suitable for protecting cables and wire from abrasion when passing through a panel hole where strain is not present.



No. 1045—Kit of 50 asst. Grommets.	Net Price \$0.30
1046—For 1/4" hole, 3/16" I.D.	.54
Per C	
1047—For 3/8" hole, 9/32" I.D.	.63
Per C	
1048—For 1/2" hole, 5/8" I.D.	.75
Per C	



RADIO SPAGHETTI

High grade spaghetti for Radio-Television work. Average dielectric strength — 5,000 volts. Very flexible. Colors: Black, Brown, Red, Green, Yellow.

No.	Description	Net Price
503—	No. 17—fit 18 wire.	\$.07
506—	No. 14—fit 14 wire.	.07
508—	No. 12—fit 12 wire.	.07
512—	1/2" I.D.	.15
515—	1/2" I.D.	.21
518—	1/2" I.D.	.27
521—	3/4" I.D. (resistor size)	.33
522—	3/4" I.D.	.45
523—	1/2" I.D.	.54

(All in 30" Lengths)

COATED SLEEVING



Improved Saturated Sleaving, lower price than regular spaghetti. Dielectric strength 2,000 volts.

No.	Description	Net Price
528—	No. 17—fit 18 wire.	\$.05
531—	No. 14—fit 14 wire.	.06
533—	No. 12—fit 12 wire.	.06
537—	1/2" I.D.	.09
540—	1/2" I.D.	.12
543—	1/2" I.D.	.15
546—	3/4" I.D. (resistor size)	.21
547—	3/4" I.D.	.24

(All in 30" Lengths)

Resistor Sleaving



A special-size sleaving to fit over resistors to insulate them from chassis, parts, etc. 3/8" diam. 30-inch length. Black.

No. 556—Sleaving	Net Price \$0.15
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Asst. Saturated Sleaving Kit



An assortment of 7 1/2" lengths of saturated sleaving. 26 lengths to the kit. Sizes include from No. 17 wire to 3/8" I.D.

No. 550—26 lengths.	Net Price \$0.30
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Laminated Bakelite

Genuine laminated Bakelite. Needed by all experimenters, amateurs and Radio men for insulating parts, terminal strips, building sets, etc. 1/16" stock in black.

No. 590—	6" x 6" x 1/16"	Net Price \$0.25
591—	6" x 12" x 1/16"	.48
592—	12" x 14" x 1/16"	1.11

Rubber Chassis Mounts



Live rubber mounts for floating chassis and speakers. To prevent microphonic noises.

No.	Description	Net Price
1030	Kit of 25 assorted	\$.90
	Wide High	
1031—	3/4" x 3/8"	per C . 2.10
1032—	3/4" x 1/2"	per C . 2.70
1033—	3/4" x 1/2"	per C . 3.90
1034—	1" x 3/8"	per C . 3.00
1035—	1" x 1/2"	per C . 6.00
1036—	1 1/4" x 3/8", Zenith discs, per C	4.80

General Cement Dial Cables are all Best Quality, Specially made for Radio use.



42 STRAND PHOSPHOR BRONZE CABLE

Highest Grade cable made of 42 strands and constructed over a linen thread center.

No. Spool	Net
71-25— 25 ft.	\$.69
71-50— 50 ft.	1.35
71-1C—100 ft.	2.40

*BRAIDED BRONZE CABLE

A lower quality cable than the No. 71, but a cable that will give good service. Braided Phosphor Bronze Cable.

No. Spool	Net
72-25— 25 ft.	\$.39
72-50— 50 ft.	.75
71-1C—100 ft.	1.47

HEAVY LINEN CABLE

Best Quality cord, same as used in Philco, Silver Marshall, Brunswick and others. Made of finest Black Linen Braided.

No. Spool	Net
73-25— 25 ft.	\$.78
73-50— 50 ft.	1.50
73-1C—100 ft.	2.70

EXTRA HEAVY LINEN CABLE

"Same as Used On Philco" A heavier cable than our No. 73. This is the same type and weight of cable used on Philco receivers.

No. Spool	Net
73X-25— 25 ft.	\$.78
73X-50— 50 ft.	1.50
73X-1C— 100 ft.	2.70

LIGHT LINEN CABLE

Black Silk Core Highest quality Light Cord, exactly as used in RCA, Wells-Gardner, Majestic, Sonora and others. Made of finest Black Silk Braided. The strongest cable available.

No. Spool	Net
74-25— 25 ft.	\$.69
74-50— 50 ft.	1.35
74-1C—100 ft.	2.40

LIGHT LINEN CABLE

Linen Core A very high grade linen cable. Used for original equipment on many of the older type sets. Has a strong linen core with a closely braided and treated covering to minimize wear.

No.	Net Price
74L-25— 25 ft. spool....	\$.69
74L-50— 50 ft. spool....	1.35
74L-1C—100 ft. spool....	2.40

SPECIAL THIN-LINEN CABLE

A strong, extra-thin linen cable for replacement where a very thin cord must be used. Braided of finest black linen.

No.	Net Price
75-25— 25 ft. spool....	\$.45
75-50— 50 ft. spool....	.84
75-1C—100 ft. spool....	1.56

SPECIAL LIGHT BRONZE CABLE

A High Quality Special Thin Phosphor Bronze Braided Cable exactly the same as used on RCA and GE sets.

No.	Net Price
76-25— 25 ft. spool....	\$.45
76-50— 50 ft. spool....	.84
76-1C—100 ft. spool....	1.56

SPECIAL HEAVY GREY CORD

For Kelster and Grebe Sets An extra heavy and extra strong cable, not to be confused with the regular heavy cords.

No.	Net Price
77-25— 25 ft. spool....	\$ 1.20
77-50— 50 ft. spool....	2.10
77-100—100 ft. spool....	4.05

PHOSPHOR BRONZE BELTING

Same belting as used on Atwater Kents, Colonial, Steingie, Crosley and others. 3/16" wide x .005" thick.

No.	Net Price
61-25—25 ft. spool....	\$.71
Bronze Belting same as used on Brunswick and Silver Marshall. 5/16" x .006" thick.	
62-25—25 ft. spool....	\$ 1.11

WHITE BRAIDED LINEN CORD

Same type of cable as used on Emersons. A light colored tightly braided linen cable. Very strong and durable.

No.	Net Price
78-25— 25 ft. spool....	\$.45
78-50— 50 ft. spool....	.84
78-1C—100 ft. spool....	1.56

MONEL METAL DIAL CABLE

A very high grade monel metal cable. It will not ravel, is very strong, won't stretch, and solders very easily. Preferred by many to the popular phosphorus bronze cables.

No.	Net Price
79-25— 25 ft. spools....	\$.45
79-50— 50 ft. spools....	.84
79-1C—100 ft. spools....	1.50

EXTRA-THIN METAL CABLE

A strong extra-thin metal cable, now becoming popular. Used especially in the foreign market. Thinner than our No. 76 cable.

No.	Net Price
80-25— 25 ft. spool....	\$.69
80-50— 50 ft. spool....	1.35
80-1C—100 ft. spool....	2.40

LATEX RUBBER TREATED MEDIUM HEAVY CABLE

A new type dial cord, treated with rubber for extra friction and strength. Will not stretch or ravel. Should be used on dials to prevent slipping on troublesome dials.

No.	Net Price
81-25— 25 ft. spool....	\$.60
81-50— 50 ft. spool....	1.14
81-1C—100 ft. spool....	2.10

READY MADE DIAL CABLES

Make of Set and Model No.	Net Price
Atwater Kent, 35, 37....	\$ 1.15
Atwater Kent, 44....	.24
Bronze Kent, 46....	.15
Atwater Kent, 55....	.15
Bosch, 48A....	.15
Bosch, 58, 60....	.15
Brunswick, 15, 22 Front....	.24
Brunswick, 15, 22 Rear....	.24
Gen. Elec., A88, A82, A87....	.12
Majestic, 70, 71, 72....	.12
Majestic, 15B Lary Boy....	.15
Majestic, 52, 60....	.15
New Majestic, 60, 620....	.15
Philco, 71....	.15
Philco, 91....	.15
RCA, 44, 46, 47....	.18
RCA, 16, 17, 18, 33....	.18

Cables available for other models also; state Make and Model when ordering or send in old cable.

DIAL DRIVE SPRING ASSORTMENT

Kit of Dial Drive Tension Springs. Six sizes supplied to handle all sets.

No. 1055—Kit of 25 assorted springs.	Net Price...\$.60
No. 1056—Kit of 100 assorted Springs.	Net Price...\$ 2.10
No. 1057—Any size.	Each...\$.03

GC RUBBER DRIVES

Specially made for Atwater Kent, RCA, Stewart Warner, Olsen, Kennedy, Emerson and others. Best quality live rubber drives.

No. 1025—25 asstd....	\$.90
1026—100 asstd....	3.30
Each.	.06
Any type....	.06
All numbers, per 100....	3.30

No. 15 Philco No. 42-2346....\$.15

DIAL DRIVE CEMENT

Specially prepared for cementing Rubber dial drives to metal shafts, rubber mountings to chassis, or for cementing any rubber material to metal.

No.	Net Price
351—Dial Drive Cement in tube...	\$.27
352—Dial Drive Cement 2 oz. bottle with brush...	.30

SERVICE MEN'S DIAL CABLE KIT No. 1

Kit contains: Four 25 ft. spools of popular type Dial Cable—42 strand Bronze, Special thin GE—RCA Cable, Light and Heavy Linen Cable. PRICE assortment of Eyelets and Clamps with Kit.

No. 77-SK—Cable Kit.....Net Price \$ 2.35

SERVICE MEN'S DIAL CABLE KIT No. 2

A handy combination Kit of 10 ft. lengths of all 12 G-C dial cables listed above. Each type in a separate envelope, and all packed in a leatherette box.

No. 78-SK—Complete Kit..Net Price \$ 2.55

NON-SLIP COMPOUND FOR RADIO DIALS

Powder Compound for treating friction type dial drives, such as cords, cables, and belts. Easy to use! Just apply freely to slipping parts.

No. 1210 Net Price \$ 1.8

EYELET AND CLAMP ASSORTMENT

The same eyelets and clamps as are used on READY MADE CABLES. Make your own cables and belts—AND SAVE!

No. Net Price
1028—50 asstd. pieces...\$.15

WOVEN FABRIC RADIO DIAL BELTS

General Cement Belts are approved replacements for all sets. They are made of best quality material and will not stretch. They are especially treated to prevent slipping.

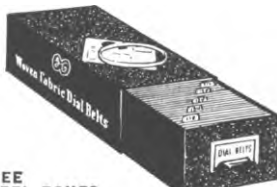
Buy the G-C Red Belt! Net Price Each **\$.15**

SERVICEMEN'S KITS


Servicemen: Have an assortment of belts on hand for prompt replacement. Kits contain only the more popular belts used.


FREE WITH EACH KIT—ATTRACTIVE STEEL BOX—BELT SCALE AND COMPLETE LISTING OF OVER 1100 MODELS.

No. G-25—Kit of 25 popular belts.....	Net 3.75
No. G-50—Kit of 50 popular belts.....	Net 7.00
No. G-100—Kit of 100 (includes every size)	Net 13.50



FREE STEEL BOXES SUPPLIED WITH KITS





Inexpensive riveting tool for riveting parts to chassis and for turning eyelets on dial cables and assemblies. Kit consists of a base which can be inserted in a vise and clincher punch for turning the rivets.

No. 740 Net Price \$ 3.30

INSTRUCTIONS — FOR MEASURING BELTS

When determining the size of belt required, stretch a thin thread or cord around the belt pulleys. (A thick cord will provide an inaccurate reading.) When taking stretched out measurement of old belts, subtract 3/16" from over all length of stretched out belt to arrive at the correct circumference of belt. Note the stretched out length is not the accurate circumference of belts.

BELTS ARE LISTED ACCORDING TO INSIDE CIRCUMFERENCE OF GC BELTS

GC Belt Size	GC Belt No.	GC Belt Size	GC Belt No.	GC Belt Size	GC Belt No.	GC Belt Size	GC Belt No.	GC Belt Size	GC Belt No.	GC Belt Size	GC Belt No.	GC Belt Size	GC Belt No.	GC Belt Size	GC Belt No.
6-23/32"	101	7-15/16"	111	9-13/64"	115	10-41/64"	129	11-25/64"	136	12-7/16"	173	12-13/16"	193	15-1/64"	149
6-55/64"	161	8-1/64"	104	9-19/64"	163	10-11/16"	121	11-7/16"	173	12-13/16"	193	15-17/64"	187	17-37/64"	169
6-57/64"	102	8-1/32"	159	9-5/16"	116	10-45/64"	120	11-21/32"	154	12-15/32"	144	15-1/2"	185	17-5/8"	179
6-15/16"	158	8-15/64"	114	9-17/32"	119	10-29/32"	180	11-3/4"	141	12-1/2"	178	15-13/16"	150	18-1/2"	189
7-1/64"	157	8-9/32"	108	9-7/8"	123	10-61/64"	133	11-13/16"	143	12-39/64"	145	15-61/64"	150	18-21/32"	181
7-1/4"	106	8-19/64"	172	9-59/64"	127	10-31/32"	132	12-1/32"	154	13-3/16"	144	16-19/64"	146	19-7/16"	166
7-9/32"	156	8-5/16"	162	9-61/64"	126	11-1/8"	135	12-1/16"	138	14-27/64"	147	16-19/64"	170	19-47/64"	188
7-13/32"	177	8-29/64"	100	10-1/4"	164	11-5/64"	130	12-3/32"	142	14-7/32"	186	16-11/16"	184	21-5/16"	175
7-15/32"	103	8-1/2"	110	10-17/64"	124	11-1/8"	171	12-7/32"	149	14-11/16"	148	16-15/16"	185	22-5/8"	176
7-1/2"	105	8-5/8"	112	10-19/64"	128	11-9/64"	131	12-9/32"	139	14-57/64"	151	17-1/16"	185	22-49/64"	191
7-19/32"	155	8-39/64"	153	10-23/64"	118	11-5/8"	137								
7-11/16"	107	8-11/16"	160	10-3/8"	122	11-9/32"	131								
7-3/4"	114	8-13/16"	167	10-25/64"	125	11-5/16"	131								
7-57/64"	113	9-1/16"	117	10-1/2"	152	11-8/8"	134								

GENERAL



CEMENT

Record Compounds and Accessories Belts - Wire - Glass Crystals

REK-O-DOPE

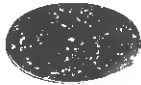
"New All-Purpose Record Compound"

Cleans — Lubricates — Hardens — Renew old records and preserves new records and recordings. It improves reproduction as it removes all dirt and loose particles, lubricates the surface and hardens the grooves. Records treated with G-C REK-O-DOPE will give better tone, and will last longer.



No.	Net Price
1261—1 oz. bottle.....	\$.15
1262—2 oz. bottle.....	.21
1264—4 oz. bottle.....	.30
1266—6 oz. bottle.....	.39

RECORD-TURNTABLE FELT



"Ready Cut Pieces" Replace worn out and "friction-less" felt on record turntables. You or your customers cannot obtain good recordings or reproductions unless the record is held firmly in place on the turntable. Keep a supply of this special felt on hand for that extra-profit job. Pieces cut round, center hole punched.

Use grille cloth cement as an adhesive.

No.	Net Price
1292—7 7/8" diam.	\$.21
1293—9 7/8" diam. ....	.30
1294—11 7/8" diam. ....	.39

RECORD LUBRICANT

Reduces the surface noise and prevents excessive wear on the record or needles. Can also be used for a pre-recording lubricant. Records will last longer when you use a lubricant.



No.	Net Price
1252—2 oz. bottle.....	\$.21
1254—4 oz. bottle.....	.30
1256—6 oz. bottle.....	.45

RECORD CLEANING PAD



For all who use records, this specially treated pad is necessary to clean and remove dust and accumulation from records, without harming them. You can sell record users one of these pads.

No.	Net Price
1290—Size 4" x 4".....	\$0.12
1290—Size 6" x 6".....	.18

TEN TIME PHONOGRAPH NEEDLES

Better quality needles that will play 10 records. Specially heat-treated to give better service and last longer. Good needles save your records.

Available in extra loud, loud, medium and soft tones.

1421—50 to pkg., specify tone.....	\$.09
1422—100 to pkg., specify tone.....	.15
1423—Carton of 50 pkgs. of 100, assorted tones	7.20
1424—Carton of 50 pkgs. of 100, specify tone..	7.20
1425—Carton of 50 pkgs. of 50, assorted tones	4.35
1426—Carton of 50 pkgs. of 50, specify tone..	4.35

Phono-Turntable Lubricant

"A Stainless Lubricant"

A new special lubricant for phonographs. Other lubricants will thin and run to the lowest point of gravity on the mechanism, but this is specially formulated so that the lubricant clings to the surface of the parts. Eliminate trouble on phono repairs by using the best.



No.	Net Price
1222—2 oz. bottle..	\$0.21

Play Back Phonograph Needles

G-C Phonograph needles are made of the very finest grade tool steel. The points are precision ground, and are accurately cut. They are specially heat treated to give good service. Good needles save the cost of record replacements.

Available in extra loud, loud, medium and soft tones.

No.	Net Price
1401—50 to pkg.—specify tone.....	\$.06
1402—100 to pkg.—specify tone.....	.09
1403—Carton of 50 pkgs. of 100—assd. tones	4.35
1404—Carton of 50 pkgs. of 100—specify tone	4.35
1405—Carton of 50 pkgs. of 50—assd. tones	2.85
1406—Carton of 50 pkgs. of 50—specify tone	2.85

G-C RADIO HOOK-UP WIRE

G-C Hook-up Wire is constructed of quality material and is particularly intended for Radio Repair and Constructive Work. Available in either Solid or Stranded tinned copper conductors. Colors — Red, Black, Green, Blue, and Yellow.



SOLID PUSH BACK

Cat. No.	Size	Length	Net Price
801	22	25 ft.	\$.15
802	22	100 ft.	.51
805	20	25 ft.	.17
806	20	100 ft.	.57
810	18	25 ft.	.20
811	18	100 ft.	.72



STRANDED PUSH BACK

Cat. No.	Size	Length	Net Price
825	22	25 ft.	\$.17
826	22	100 ft.	.60
830	20	25 ft.	.20
831	20	100 ft.	.66
835	18	25 ft.	.23
836	18	100 ft.	.84

AC RUBBER CORD



"Approved by Underwriters' Labs"

This high grade cord is one of the most popular items in the Electrical and Radio field for a general purpose cord. It can be used on radios, clocks, lamps, and appliances. No. 18 conductors completely covered with rubber.

No.	Net Price
845—Brown color, 100 ft. spool, per C ft.....	\$1.80
846—Brown color, 250 ft. spool, per C ft.....	1.74

GLASS DIAL CRYSTALS

Round Convex dial crystals. Now you can replace those cracked or broken dial crystals and Profit! Can also be used for clock crystals, instrument panels, etc. Available in all different sizes.



Diam. No. ("")	Net Price	Diam. No. ("")	Net Price	Diam. No. ("")	Net Price	Diam. No. ("")	Net Price
25 1 3/8	\$.21	35 3 1/8	\$.21	46 4 1/2	\$.27	57 5 7/8	\$.27
26 1 7/8	.21	36 3 3/4	.21	47 4 3/4	.27	58 6	.27
26A 2	.21	37 3 3/8	.21	48 4 3/4	.27	59 6 1/2	.27
27 2 1/8	.21	38 3 1/2	.21	49 4 7/8	.27	60 6 1/4	.27
28 2 1/4	.21	39 3 3/4	.21	50 5	.27	61 6 3/8	.27
29 2 3/8	.21	40 3 3/4	.21	51 5 1/4	.27	62 6 1/2	.27
30 2 1/2	.21	41 3 7/8	.21	52 5 1/4	.27	63 6 3/8	.27
31 2 5/8	.21	42 4	.27	53 5 3/4	.27	64 6 3/4	.27
32 2 3/4	.21	43 4 1/8	.27	54 5 1/2	.27	66 7	.30
33 2 7/8	.21	44 4 1/4	.27	55 5 3/4	.27	74 8	.30
34 3	.21	45 4 3/8	.27	56 5 1/2	.27		

SHELLAC STIKS

For permanently filling in holes and nicks in cabinets and fine furniture. All shades.

No.	Net Price
929—Light Walnut, 7" stick.....	\$.15
930—Dark Walnut, 7" stick.....	.15
931—Light Oak, 7" stick.....	.15
932—Dark Oak, 7" stick.....	.15
933—Black, 7" stick.....	.15
934—White, 7" stick.....	.15
935—Maple, 7" stick.....	.16
936—Special Spatula.....	.30
937—Alcohol Lamp.....	.15
938—Alcohol Lamp Fuel per pt..	.45

Porcelain Patch Stick

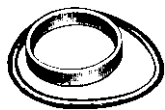
Specially made for white Porcelain Refrigerators. Simply melt into nick and smooth off. Makes a perfect patch.



No.	Net Price
908.....	\$.15

No.	Net Price
DC-50—Kit of 50 dial crystals complete in handy Free Box.	\$11.10

VACUUM CLEANER BELTS



Profit by displaying a card of Vacuum Cleaner Belts. Every Home is a potential customer. Belts made of the very finest grade of live rubber.

No.	Net Price
1010—24 assorted belts on a wire display.....	\$1.95
1011—Hamilton Beach Belt, G.E., Premier, etc.....	.06
1012—Hoover Flat Belt.....	.08
1013—Hoover Rubber round type ..	.15

Window Cleaner Concentrate

"Make your own window cleaner and save"



Here's exactly the same compound as is used in the popular window cleaners — make your own and save. You simply add the concentrate to water and have a first grade window cleaner. Concentrate is colored blue. Regular size bottle will make a quart of cleaner.

No. 1225—6 oz bottle....	Net Price \$1.15
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ALUMINUM FOIL



The ideal shielding material now available in straight lengths. Can be used to form your own shields. Suitable for use as an inside aerial — can be tacked on the back or the bottom of the set, and through a lead, connected to the aerial post. Has a 100-1 various uses for the Radio Experimenter or Serviceman. Aluminum .0025" thick and supplied in roll lengths.

No.	Net Price
1410—12" x 24".....	\$.24
1411—12" x 48".....	.36

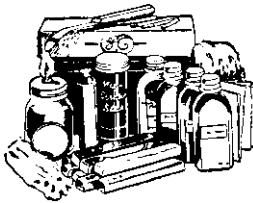
GENERAL



CEMENT

Cabinet Repair Kits Scratch Removers - Polishes

DELUXE CABINET REPAIR KIT



Comes in handy Black Leatherette finish box. Contains nine shades of shellac sticks, bottles of light and dark oil stain, bottles of metal shading varnish, polish, General Skratz Stik, alcohol lamp (with alcohol), spatula, small brushes, steel wool, sand paper, and wiping cloth. Everything necessary for a practical repair job. No special skill required. Directions included.

No. 901 Net Price \$1.95

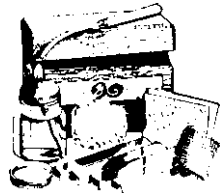
REFRIGERATOR PATCH KIT

Supplies everything necessary to repair porcelain or Duco nicks, dents, or scratches. Kit contains bottle of pure white lacquer enamel and bottles of yellow, blue, brown, and black tinting colors, a bottle of porcelain glazing compound, solvent, spatula, sandpaper, mixing tins and brushes. Useful on refrigerators, washers, ranges, table tops, etc. Directions included.

No. 902 Net Price \$1.50



RADIO-REFRIGERATOR CABINET PATCH KIT



A Kit of the Shellac Patch Sticks to fill all needs. Patches wood, plastics, bakelite and porcelain. Nine shellac sticks for the light and dark shades of wood, and black and white, alcohol lamp (with alcohol), spatula, steel wool, sand paper, and wiping cloth are packed in the black leatherette box. Directions included.

No. 903 Net Price \$1.35

CABINET SPEAKER GRILLE CLOTH

High quality cloth that will blend with any cabinet.

No. Net Price
940—18 x 20"\$.45
941—9 x 18"\$.30



942—12 x 12"\$.27
943—14 x 18"\$.36
944—24 x 13"\$.42
945—18 x 13"\$.33
946—8 x 6"\$.12
947—9 1/2 x 10"\$.15
948—6 x 6"\$.12
949—50" wide. Any length, per yd. 1.80

Special light color Grille Cloth for Plaskon and Ivory Cabinets can be supplied at above prices. Specify "Ivory" when wanted.

LEMON OIL POLISH



A high grade inexpensive lemon oil polish. Polish those sets after repairing for customer good-will. Fast working — Inexpensive.

No. Net Price
918—8 oz. bot.\$.15
9112—12 oz. bot.\$.21
9116—16 oz. bot.\$.27

PORCELAIN GLAZE

"For Refrigerators and Washers"

Easily fills in those nicks in porcelain. Used on refrigerators and washing machines and all porcelain. Merely fill in the nick and smooth over the top.

No. Net Price
911\$.21



SCRATCH CRAYONS

Handy package of Six Shades of Crayon Fillers to match practically all shades of wood.

These are special Stain Fillers. Merely select the filler of the proper shade and run it over the scratch or dent. Works fast.

No. Net Price
912—Per Package\$.30



MAGIC SCRATCH REMOVER KIT

A combination kit of Scratch Crayons and Scratch Fluid. Handy to have for emergency jobs. Put up in convenient box.

No. Net Price
913\$.39



TOPS SELF-POLISH LIQUID FLOOR WAX

Durable no rub self-polishing Floor Wax. Very Best Quality. Merely apply to the floor and dries to a durable gloss finish. Profit by selling.

No. Net Price
9716—Pint\$.36
9732—Quart\$.60
976—Gallon\$ 1.95



CABINET TOUCH-UP KIT



A practical Kit for scratches and dents. Includes light and dark stains and light and dark varnish stains that dry almost immediately, brushes, wiping cloth, and a scratch filler.

No. Net Price
905\$.36

PLASTIC CABINET TOUCH-UP KIT

"For Plastic and Colored Cabinets"



contains Walnut, Ivory, Black, Red, Blue and Green colors. Brushes furnished.

No. 910 Net Price \$.45

A new Kit composed of six various shades of the high grade lacquer enamel for touching up plastic cabinets. All colors are very brilliant and will blend with cabinets in use. Easy colors. Brushes furnished.



No. Net Price
909—Skratch Stik\$.30

SKRATCH STIK

Handy Pocket scratch remover. The stick has both a filler and a scratch polish in it. It's hard to avoid making scratches, but they are easy to take out with this stick. The most popular Skratz Stik on the market. Thousands in use. Makes excellent premium for customers. Your name imprinted in Gross lots.

No. Net Price
909—Skratch Stik\$.30

FRENCH VARNISH



For blending repaired surfaces with the original. Merely apply over the repaired part and it will blend into the original finish and conceal the repair. Dries Fast.

No. Net Price
1602—1/8 pt. bot.\$.21
1604—1/4 pt. can.\$.39
1608—1/2 pt. can.\$.63
16016—1 pint can.\$ 1.20

RUBBING OIL



For rubbing down newly finished cabinets and furniture. Takes the high gloss off newly lacquered and varnished surfaces. Produces a satin-like finish.

No. Net Price
16316—1 pint\$.30
16332—Quart\$.45
1636—Gallon\$ 1.20

VARNISH STAIN

The same stains that are used in our cabinet touch-up Kits. A durable fast drying varnish with the finishing stains in it. Available in light and dark walnut shades. Specify shade.



No. Net Price
1612—1/8 pt.\$.15
1614—1/4 pt.\$.21
1618—1/2 pt.\$.39
16116—1 pint\$.75
16132—Quart\$ 1.35

PENETRATING STAIN

The stain that is used to cover scratches and nicks on Radio Cabinets, Pianos, Furniture, etc. Specially formulated to penetrate into wood. Fine for darkening the corners on cabinets. Use on all wood. Walnut finish.



No. Net Price
1622—1/8 pt.\$.12
1624—1/4 pt.\$.21
1628—1/2 pt.\$.39
16216—1 pint\$.75

TOPS SPOT CLEANER

A High Grade dry cleaner with a special applicator. The applicator is in the cap—no extra cloth needed. Non-explosive. Sell your customers for extra profits.

No. Net Price
1241—Regular Size bottle\$.15
10A—Deal—Includes 36 bottles of Tops Spot Cleaner and display\$ 4.86
1242—5 oz. bottle\$.24
1248—8 oz. bottle\$.30
12418—16 oz. bottle\$.45



TOPS SKRATCH REMOVER POLISH

Our famous Skratz Remover Polish put up in a special bottle with an applicator in the cap. Merely rub the applicator over the scratch and the job is done. Display in your shop for extra sales.

No. Net Price
921—Regular Size bottle\$.15
9A—Deal—Includes 36 bottles of Tops Skratz Polish and display\$ 5.10
920—3 oz. bottle\$.30



MAGIC SCRATCH REMOVER POLISH

Something new! Polish contains the proper stains, etc., to eliminate scratches on cabinets while polishing the cabinet to a gloss! You can sell this to Housewives.

No. Net Price
922—2 oz. bottle\$.12
928—8 oz. bottle\$.27
9212—12 oz. bottle\$.36
9216—16 oz. bottle\$.45



CREME-O-WAX POLISH

The best polish for furniture, radio cabinets, pianos, etc. Truly a wax finish; contains no oil. Dries hard and glossy. Is not sticky. Demonstrate on the job and sell your customer. Easily applied.

No. Net Price
952—2 oz. bottle\$.12
958—8 oz. bottle\$.27
9512—12 oz. bottle\$.36
9516—16 oz. bottle\$.45



Knobs - Springs - Fabric Ignition Suppressors

BAKELITE KNOBS



MAJESTIC BAKELITE KNOBS

Popular pattern, walnut finish. Set screw, $\frac{1}{4}$ " shaft.
No. Size Net
1100— $\frac{3}{8}$ " \$.08



ROYAL BAKELITE KNOBS

Beautiful pattern, walnut finish. Set screw, $\frac{3}{8}$ " shaft.
No. Size Net
1105— $\frac{7}{8}$ " \$.08



YANKEE BAKELITE KNOBS

Modern pattern, walnut finish. Set screw, $\frac{1}{4}$ " shaft.
No. Size Net
1110— $\frac{1}{2}$ " \$.09

POINTER KNOBS



MODERN POINTER KNOBS

Attractive pattern, black finish. Set screw, $\frac{1}{4}$ " shaft.
No. Size Net
1130— $2\frac{1}{4}$ " \$.14
1131— $1\frac{3}{8}$ " \$.11



STREAMLINE POINTER KNOBS

Popular design, black finish. Set screw, $\frac{3}{8}$ " shaft.
No. Size Net
1135— $2\frac{1}{4}$ " \$.09
1136— $1\frac{1}{4}$ " \$.08

MIDGET KNOBS



MIDGET BAKELITE KNOBS

Popular knobs for small sets, $1\frac{1}{16}$ " diam. Set screw, $\frac{1}{4}$ " shaft.
Pointer Type
No. Color
1115—Walnut
1116—Ivory
1117—Red
1118—Black
Net \$.06 each



Non-Pointer

Modern pattern, walnut finish. Set screw, $\frac{1}{4}$ " shaft.
No. Size Net
1120— $1\frac{1}{2}$ " \$.09
1121— $1\frac{1}{8}$ " \$.10
1122— $1\frac{1}{4}$ " \$.10

WOOD KNOBS



MODERN WOOD KNOBS

Modern pattern, walnut finish. Set screw, $\frac{1}{4}$ " shaft.
No. Size Net
1125— $3\frac{3}{8}$ " \$.10
1126— $1\frac{1}{2}$ " \$.11
1127— $1\frac{1}{4}$ " \$.11



ROYAL WOOD KNOBS

Popular pattern, black finish. Set screw, $\frac{1}{4}$ " shaft.
No. Size Net
1125— $3\frac{3}{8}$ " \$.10
1126— $1\frac{1}{2}$ " \$.11
1127— $1\frac{1}{4}$ " \$.11

KNURL SHAFT BAKELITE KNOBS



Bakelite— $15\frac{1}{16}$ " diam, spring type to fit $\frac{1}{4}$ " Bat shaft. Has $7\frac{1}{16}$ " extension shank.
No. Net Price
1151—Walnut \$.06
1152—Ivory \$.06



Bakelite— $15\frac{1}{16}$ " diam, knurled shaft with a $5\frac{1}{16}$ " extension shank.
No. Net Price
1153—Walnut \$.06
1154—Ivory \$.06



Bakelite— $15\frac{1}{16}$ " diam, to fit the new style knurled shaft.
No. Net Price
1155—Walnut \$.06
1156—Ivory \$.06



Midget Bakelite $\frac{3}{8}$ " diam, knurled type — with $5\frac{1}{16}$ " extension shaft.
No. Net Price
1157—Walnut \$.06
1158—Ivory \$.06



Midget Bakelite $\frac{3}{8}$ " diam, knurled type shaft.
No. Net Price
1159—Walnut \$.06
1160—Ivory \$.06

Radio Push-on Knob Springs

Here's what you've been looking for. An assortment of types of springs used in radio knobs. Will fit in all knobs, such as on Majestic, RCA, Philco, General Electric, etc. You need a Kit.



No. Net Price
1050—Kit of 35 Springs \$.36
1051—Kit of 100 Springs \$.75

RADIO SOCKETS

High quality molded bakelite sockets. High Dielectric. Sockets and will not corrode. Three grounding lugs are on metal base of each socket, and are automatically grounded when the socket is installed. $1\frac{1}{2}$ " mounting centers. 1- $3\frac{3}{32}$ " mounting hole.



Standard R.M.A. Contact Spacings

No.	Net Price
1524—1 prong	\$.06
1525—5 prong	\$.06
1526—6 prong	\$.06
1527—7 prong, standard small	\$.06
1528—8 prong octal base	\$.08

RADIO KNOB FELTS

Same as are used behind radio knobs on the latest sets. Prevent scratching and rubbing.



No. Net Price
1065—Box of 25 Felts \$.15

RADIO KNOB SET SCREWS

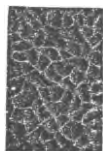
Replacement Screws for Knobs. Assortment of 50. Contains various lengths of 6/32, 8/32, 10/32 screws.



No. Net Price
1060 — 50 assorted set screws \$.45
1061 — Any size — per 100 \$.75

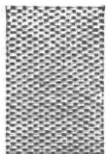
LUGGAGE FABRIC

Aeroplane type—same as used in new portable radios. Necessary to re-cover or repair damaged cases, modernize your old test equipment cases, etc. The logical covering for worn out instrument cases.



No.	Net Price
960—18" x 18"	\$.27
961—36" x 18"	\$.51
962—Any length (per yd.) 36" wide	\$.90

LEATHERETTE INSTRUMENT FABRIC



A black leatherette finish fabric for re-covering instrument cases. Same as used by manufacturers. Keep your instruments looking new.

No.	Net Price
965—18" x 20"	\$.27
966—18" x 40"	\$.51
967—Any length (per yd.) 46" wide	\$.90

HUB CAP STATIC ELIMINATOR

Eliminates static noises in front wheels of car. Spring is made with metal point for sure contact.

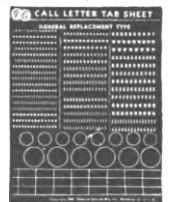


No. Net Price
1058 Each \$.06
1059—Box of 24 \$ 1.35

G-C CALL LETTER TAB SHEET

"General Replacement for Assorted Tabs"

The G-C Tab sheet will enable you to replace or change the call letters with a minimum expense. You merely cut out the proper size letters and paste them on the proper shape tabs. Tabs may be covered with a coating of Service Cement after they are inserted in place to provide a good protective coating and to hold them in place. Enough letters are provided to make up from 150 to 200 individual tabs. Sheet is brown, with white letters.

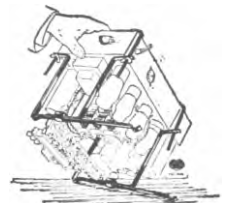
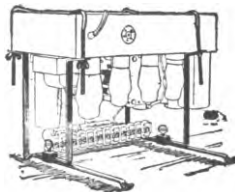


No. 1181 Net Price \$.09

RADIO CHASSIS GUARDS

"The Answer to the Radio Man's Problem!"

inexpensive set of guards that will protect the chassis and tubes. When working on set, chassis can be turned in any position without damage to set or tubes. Adjustable to fit all sets. Easily applied.



No. Net Price
709—Chassis Guards complete, per pair \$ 1.25

Grille Cloth Fabric Cement

"For Cementing Cloth, Fabric, to Wood"

For cementing grille cloth to radio cabinets and also to adhere the new aeroplane type fabric to the new portable radios, cases, or to wood of any kind. This cement dries quickly and evenly.



No.	Net Price
384— $\frac{1}{4}$ pt. can.	\$.21
388— $\frac{1}{2}$ pt. can.	\$.36
3816—1 pint can	\$.66

UTICA TOOLS

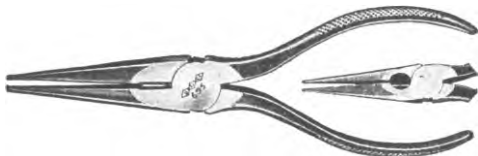


**No. 41
Utica Alloy Steel
Diagonal Cutting Plier**

Drop forged from Alloy Steel. Hardened and tempered in oil. Special narrow nose for radio work.

No. 41	5 in.	5½ in.	6 in.
Price	1.50	1.65	1.80

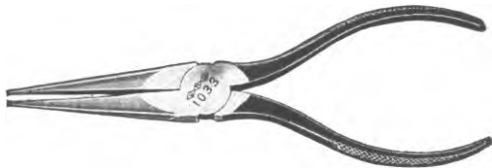
Can be furnished with insulation stripper.



**No. 655 • Utica Long Needle Nose
Side Cutting Plier**

This is a long fine spring-tempered nose side cutting plier, drop forged from Alloy Steel with hand-honed cutting knives.

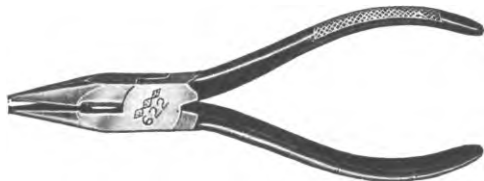
Utica Finish Size	6"	7"
Price	1.50	1.75



**No. 1033 • Utica Long Chain
Needle Nose Plier**

This is a long needle nose type of plier without a side cutter. It has a spring-tempered needle nose with a fine balance for delicate work.

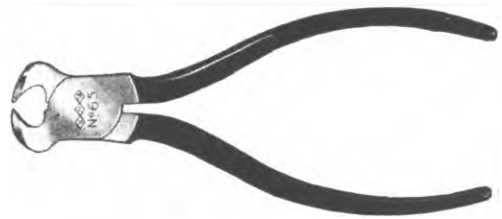
Utica Finish Size	6"	7"
Price	1.30	1.45



**No. 622 • Utica Short Chain
Nose Mechanic's Plier**

This plier is a Short Chain Nose Side Cutting Plier, hand-honed cutting knives. It makes an all around Electrical Mechanic's plier.

Utica Finish Size	5"
Price	1.17



**No. 65 • Utica
Jeweler's End Cutting Nipper**

This Nipper is forged from a fine grade of steel, carefully tempered. A light, strong End Cutting Nipper, used by Electricians and Machinists. The keen cutting edges and "Perfect Fit" handles make this a very popular tool (Lap joint).

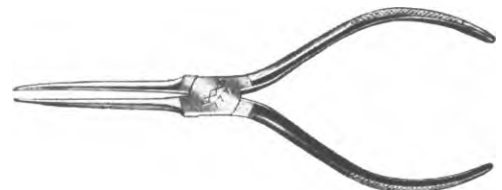
Utica Finish Size	5"
Price	1.50



**No. 50 • Utica Standard
Side Cutting Plier**

An ideal tool for electrical work. Forged from Alloy Steel and skillfully tempered. Its cutting qualities are unsurpassed by any side cutting plier.

Utica Finish Size	4"	5"	6"	7"	8"
Price	1.05	1.15	1.25	1.40	1.50



**No. 777 • Utica Long Needle
Nose Plier**

This plier has a long, half-round, spring-tempered nose for very fine work in assembling small electrical apparatus.

Utica Finish Size	6"
Price	1.65

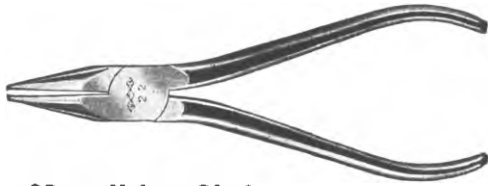


**No. 888 • Utica Curved Needle
Nose Plier**

This is a long curved spring-tempered Needle Nose Plier and used in deep and narrow places. It may be used without turning or twisting the hand in the assembling of small fixtures, electrical apparatus, etc.

Utica Finish Size	6"
Price	1.90

GOOD TOOLS SHORTEN LABOR



No. 22 • Utica Chain Nose Plier

This is a Short Chain Nose Plier forged from a fine quality of steel with fine points particularly adapted for the use of Jewelers, Opticians, Telephone Installers, Electricians and Radio Assemblers.

Utica Finish Size	4"	4½"	5"	5½"	6"
Price	.84	.88	.90	1.00	1.05



No. 82 • Utica Chain Nose Wiring Plier

This is a special Radio Repair man's plier, new in design, having a chain nose for those who prefer this type of construction. Forged from Alloy Steel.

Utica Finish Size	7¾"
Price	1.65



No. 91—6" • Utica Thin Alloy Steel Wrench, Chrome Plated

This new Utica Thin Pattern Full Alloy Steel Wrench is not just another wrench; it's different in that the jaws are designed to get at places inaccessible with the ordinary wrench of this type.

Both the handle and jaw are drop forged from a high grade Alloy Steel, hardened and tempered in oil and will not break or wear in the gear teeth and allow play in the wrench, permitting the jaw to slip off the nut.

Note the full deep throat for either square or hexagon nuts. It will give better service and last longer than any other wrench.

Size	4"	6"	8"	10"	12"
Price	.94	.94	1.15	1.45	2.00



No. 895 Utica Radio Plier

This is a General Radio Repair Man's Plier. It has a center cutter and flat scored nose for looping and bending.

Utica Finish Size	6"
Price	2.00



No. 517 Utica Ignition Plier

This ignition Plier with its unique design will fit all ignition units, forged from Alloy Steel, spring tempered. A great little tool for the hard to get at adjustments.

No. 517	5"
Price	1.10



No. 275 • Utica Circular Utility Snip

Drop forged from Alloy Steel hardened and tempered to cut. Designed specially for cutting out intricate patterns and curves. An ideal tool for cutting gaskets. It makes a nice smooth cut and leaves the metal unbent. Polished blades and gun metal handles.

Size	7¾"	10"	12"
Price	1.15	1.30	1.50

UTICA AMBERGRIP INSULATED SCREWDRIVERS



Tool No.	Stock	Blade Length	Price	Tool No.	Stock	Blade Length	Price
1200	¾"	2"	.30	1204	3/16"	9"	.85
1201	½"	3"	.35	1205	¼"	1¼"	.65
1202	3/16"	3"	.65	1206	¼"	10"	.90
1203	3/16"	6"	.75	1211	¼"	4"	.75
				1212	¼"	6"	.85

WALSCO

AIDS TO THE SERVICEMAN

WALSCO STAPLE DRIVER



An amazing new tool! Makes all wire and cable installations twice as easy—much neater—saves half the time. So shaped that wires can be stapled down in corners, behind pipes, into moldings and other places never before accessible with hammer and ordinary staples. Wires can also be attached to hard surfaces such as plaster, mortar and even soft concrete. Magazine holds twenty-three staples for wire up to 1/4" diameter, works automatically, and can be loaded in a few seconds. Adjustable fitting regulates depth of driven staple, thus avoiding damage to insulation on wire, etc. Shipping Wt. 1 1/2 lbs. Includes one box of WalSCO staples.

Net
No. 500—Rust-proof finish \$3.30
No. 501—DeLuxe Chromium Finish 4.25

Handy Carrying Case

No. 505—Heavy Leather \$1.25

WalSCO Steel Staples

High quality steel, covered inside with a special flexible insulating lacquer. Available in ivory, brown, or blue—(specify color.).



No. 550—Box of 10 strips (280 staples) Net \$2.04
No. 551—Box of 100 strips (2300 staples) Net \$2.00

RADIO CEMENT



An elastic waterproof cement used for repairing loudspeakers, broken cabinets, loose tube bases, grid caps—or most anything. Flows freely, dries fast. Not affected by high temperature or extreme vibration. Each bottle comes with a brush.

No. Net
50—1/2 oz. bottle \$0.15
52—2 oz. bottle27
54—4 oz. bottle45
58—8 oz. bottle84

CEMENT SOLVENT & THINNER

Used for thinning of WalSCO Cement and for cleaning the cement brush; also for loosening cement on speakers.

No. Net
62—2 oz. bottle \$0.21
64—4 oz. bottle30
68—8 oz. bottle45

MULTI-USE CEMENT

One of the finest adhesives made. Heavier in body than our Radio Cement and unexcelled for repairing broken plastic cabinets, knobs, grid caps, etc. Waterproof and heat-resisting.

No. Net
42—2 oz. bottle \$0.27
48—8 oz. bottle84



RUBBER CEMENT

For cementing rubber parts such as chassis mounts, drive rubbers, etc., to metal or wood. Brush is attached to cap of each bottle.

No. Net
R-2—2 oz. bottle \$0.27

RADIO DIAL DRIVE CABLES

WalSCO Cords are the finest on the market. Put up most attractively and conveniently, and priced low.



PHOSPHOR BRONZE CABLE—42-Strand— Highest grade phosphor bronze wound over linen center.

No. 30—25 ft. Spool Net \$ 0.66
No. 30-5C—500 ft. Spool Net 10.20

PHOSPHOR BRONZE CABLE—16-Braided— A low priced cable of good quality to be used as a substitute for No. 30, 33 or 34 cables. Has strong linen center.

No. 31—25 ft. Spool Net \$0.39
No. 31-5C—500 ft. Spool Net 6.00

THIN PHOSPHOR BRONZE CABLE— As used in previous years on some RCA and GE sets.

No. 32—25 ft. Spool Net \$0.45

HEAVY LINEN CORD— Finest grade, as used on many sets such as Philco, Majestic, etc.

No. 33—25 ft. Spool Net \$ 0.60
No. 33-5C—500 ft. Spool Net 10.20

MEDIUM LINEN CORD— Same quality as heavy, but thinner. As used on many newer models of RCA, Sonora, etc.

No. 34—25 ft. Spool Net \$0.60
No. 34-5C—500 ft. Spool Net 9.00

SPECIAL THIN CORD— Same kind as used on many of the latest models. Very light, but exceptionally strong and durable. Specially treated.

No. 35—25 ft. Spool Net \$0.39
No. 35-5C—500 ft. Spool Net 6.00

FRICITION DRIVE RUBBERS

Ten different sizes. Send old part or give make and model number of set.

No. 330 Net each \$0.06
No. 331 Net Price, ten assorted .48

MULTI-SPOOL

This very handy item for the shop and tool kit consists of a divided spool holding 15 ft. each of the following cables: Phosphor Bronze No. 30, Phosphor Bronze No. 32, Heavy Linen Cord No. 33, Medium Linen Cord No. 34.



No. 39 Net \$1.35

DIAL DRIVE SPRINGS

Made of high grade steel wire and rustproof. Five sizes will take care of any replacement job and will give excellent service.

No. 340—Kit of 10 Assorted Springs Net \$0.24



RADIO DIAL OIL

A light bodied lubricating oil, absolutely free from acids or gummy substances. For use on radio dials, band switches, and on all electrical appliances. To prevent rust on radio-chassis, tools and machinery—cover thinly with Dial Oil.

No. Net
70—1/2-oz. Bottle \$0.09
72—2-oz. Bottle15
74—4-oz. Bottle24
78—8-oz. Bottle36

FRICITION POWDER

For repairing dial drives with slipping cords or belts. Should be applied freely to the slipping parts, and it will often make the replacement of slipping cords and belts unnecessary.

No. Net
F1—Small Bottle \$0.09
F2—2-Oz. Jar15



COIL-DOPE KIT

This coil dope has a polystyrene base and its power factor loss is negligible, even if used for high frequency work. Will render articles moisture proof. May also be used for cementing parts which are made of polystyrene. Kit contains 2 oz. bottle of coil dope, 1 oz. bottle of special thinner, and two brushes.



No. Net
K-21 \$0.33
(Special price on larger quantities)

CHROME-LUSTRE PAINT

An aluminum paint which leaves a satin chrome finish. Can be brushed or sprayed on. May be used indoors or outside and will adhere to practically anything. Will leave no brush marks and dries in about one hour.



No. Net
CP-2—2 Oz. Jar \$0.15
CP-16—1 Pt. Can93

WASCOLUB

A highly purified grease containing colloidal graphite. Cleans and lubricates at the same time. For use on controls and switches to eliminate or prevent noisy operation. Can also be used as a turntable and record changer lubricant.



No. Net
112—2 oz. Jar \$0.21

CONTACT CLEANING FLUID

A specially prepared fluid for cleaning tuning-condenser - springs, volume controls, band switches, etc. Evaporates fast and is non-inflammable. Each bottle comes with a brush.

No. Net
80—1/2-oz. Bottle \$0.09
82—2-oz. Bottle21
84—4-oz. Bottle30
88—8-oz. Bottle45

WALSCO SCRATCH REMOVER

One of the most valuable items for Repair Men, Salesmen and Delivery Men. Made of Unbreakable Plastic and has the shape of a Fountain Pen. A handy clip makes it convenient to carry in the pocket.

The WalSCO Scratch Remover makes instantly disappear minor scratches on radios, furniture, etc., when brushed over with the felt wick on the one end. If the finish is off, or the scratch is deep, the damage can be stained and filled with the special filler on the other end.

The WalSCO Scratch Remover is indispensable to any shop or store and can be sold also to housewives, to whom it will prove to be a very helpful gadget. Comes also on display card, holding six.

No. Net
700—Each \$0.30



SOLDERING IRON TIPS

WalSCO Tips are made out of best grade copper and may be had with diamond or spade point. (If not otherwise specified, we ship tip with diamond point, this being the most popular kind). All plunger type.

No. Diam. Length Net
100 3/8" 4 3/4" \$0.27
101 1/4" 2 1/2" .21
102 3/8" 2 7/8" .24
103 1/8" 4 1/2" .33
104 1/2" 4 7/8" .54
105 5/8" 5 1/8" .57



WALSCO

AIDS TO THE SERVICEMAN

RADIO CABINET PATCHING OUTFIT



Designed especially for Radio Men. Will last for approximately 120 repair jobs and contains everything necessary to repair satisfactorily over 95% of all cabinet damage. The only Kit on the market with all Lacquers, Stains, and Enamels, specially prepared, ready mixed and soluble in alcohol. This has four advantages:

1. Drying time is reduced to about half that of ordinary materials.
2. Original finish of cabinet can in no way be burned or lifted, as would be the case with ordinary lacquers if improperly applied.
3. An unsatisfactory patch can be washed off completely, and the work started all over again.
4. No special thinners required. Thinning, washing-out brushes, etc., can be done with alcohol, which is obtainable anywhere.

Kit contains two shades of Spirit Walnut Stain (1 oz. each), which will match practically any radio cabinet. Dark Brown Lacquer (1 oz.) will cover injuries to bases and moldings. Holes or broken edges can be filled with the Plastic Wood. For the new ivory sets, there are two shades of Ivory Spirit Enamel—(1 oz. each). "Walco Patching Lacquer" (4 oz.) is one of the most important items in the Kit—brushed on, it will heal cracked finishes, and "French Polished," it will build up a spray-like finish without the use of costly equipment. "Walco Polish Renewer" (4 oz.) gives the cabinet a new appearance.

Also included are alcohol (4 oz.), three brushes, eight sheets of Garnet Finishing Paper, French Polishing Pad, Steel Wool and an instruction booklet explaining the different kinds of cabinet damages, and how to repair them.

No. K-10—In strong leatherette finish box—Shipping Weight 4½ lbs. \$2.85
 K-10-W—In beautiful wooden case with hinged lid—Shipping Weight 5 lbs. 3.21

STICK SHELLAC KIT

An inexpensive kit for those Servicemen who have some experience in cabinet refinishing work. Combined with the Walco Radio Cabinet Patching Outfit it makes the most economical and complete professional kit for repairing radio cabinets. The shellac sticks match in color almost any cabinet on the market. The Walco Shellac Rubbing Fluid makes it possible to smooth and level the patch without any effort or skill. Kit includes: 6 colors Stick-Shellac, Alcohol Lamp, Burn-In Spatula, Bottle of Shellac Rubbing Fluid, Felt, Steel Wool, Alcohol and instructions.

No. K-11—Shipping Weight 1 lb. Net Price \$1.17

RADIO CHEMO KIT



An assortment of those chemicals every Radio Man must have. Costs no more than the individual chemicals bought separately, makes a more professional appearance, and is easy to carry. Kit contains one 2-oz. bottle of each: Walco Radio Cement, Walco Cement-Solvent, Walco Radio Dial Oil, Walco Contact Cleaning Fluid, 3 Brushes.

No. K-20—Shipping Weight 1½ lbs. Net Price \$0.81

WALSCO CABINET PATCHING MATERIALS

To meet the ever-increasing demand for cabinet refinishing materials which are READY MIXED and EASY TO APPLY, Walco offers a complete line of patching materials especially prepared for the radio trade, and of outstanding quality. This is important for the radio man who has had little experience in cabinet refinishing or in compounding the materials required.

	Net
200—PATCHING LACQUER for Patching, Refinishing or "French Polishing"—(4 oz.)	\$0.45
201—DENATURED ALCOHOL for Thinning, Washing Out Brushes and as Lamp Fuel—(4 oz.)	.15
202—SPIRIT ANILINE STAIN, Especially prepared for Touch-Up Work, Light Walnut—(1 oz.)	.15
203—SPIRIT ANILINE STAIN, Dark Walnut—(1 oz.)	.15
204—LACQUER, dark brown, (Spirit Soluble) Non-transparent—For Patching Escutcheons, Moldings—(1 oz.)	.20
205—LACQUER ENAMEL, A Spirit Enamel for Ivory Radio Cabinets, Light Ivory—(1 oz.)	.20
206—LACQUER ENAMEL, Dark Ivory—(1 oz.)	.20
207—SHELLAC RUBBING FLUID, For "Rubbing Down" Patches made with Stick Shellac—(1 oz.)	.20
208—STICK SHELLAC, For Filling Holes, Scratches, etc. Six different colors. (Specify color)	.09
209—BURN-IN SPATULA, Made of Fine Steel, For Repairs with Stick Shellac	.30
210—TOUCH-UP BRUSH, ½-inch wide, For applying of Lacquer, Enamel, etc.	.10
211—TOUCH-UP BRUSHES, Camel's Hair Brushes for Touch-up Work, Size 2-8, (Specify size)	.06
212—ALCOHOL LAMP, For heating Spatula	.15
213—CABINET STAIN, One-half ounce bottle with Built-in Brush	.10

(SPECIAL PRICE ON LARGER QUANTITIES)

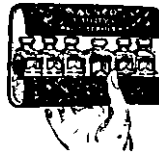
RADIO CABINET REPAIR KIT



A handy compact kit made for quick patching of damaged cabinets. Small brushes are built-in the caps of all Stain and Enamel bottles. Contents are of same high quality as in Walco Radio Cabinet Patching Outfit at left. However, this kit is designed for the smaller shop or store which has only occasional cabinet repairs, and is especially suitable for the outside man, to be carried on the delivery truck, etc.

Kit contains 1 bottle of each: Ivory Spirit Enamel, light (½ oz.), Ivory Spirit Enamel, dark (½ oz.), Lacquer Enamel, dark brown (½ oz.), Spirit Stain, walnut (½ oz.), Polish Renewer (4 oz.), French Varnish (2 oz.), 3 sheets Garnet Finishing Paper, Steel Wool, and Polishing Cloth. Instruction Booklet is enclosed.
 No. K9—Shipping Weight 2½ lbs. Net Price \$.99

UTILITY RADIO SERVICE KIT



Radio Servicemen: Here is an article that next to the screwdriver is the most useful thing in radio repairing. Put up in a compact genuine leather pocket kit are those things that the serviceman always needs on the job and which are so often missing from his tool case because they are not available in handy form. Fits any pocket and closes with snaps.

Kit contains: One bottle of Walco Concentrated Polish Renewer, 1 bottle of Walco Radio Cement for Speaker Repair and General Radio Work, 1 bottle of Friction Powder for repair of slipping dial-drives, 1 bottle of Walco Contact Cleaner for contact springs, noisy volume-controls, etc., 1 bottle of Special Cabinet Stain to remove scratches on cabinets, Bottle of Dial Oil and 2 sheets of fine Sandpaper. Bottle-caps of cement, Cleaning Fluid and Stain have brush attached. The oil-bottle comes with an applicator.
 No. K-25—Shipping Weight 1½ lbs. Net Price \$1.35

CONCENTRATED POLISH REMOVER

A new article that works differently. It first removes any old polish, grease or dirt that may be on the cabinet. Then it forms a hard, dry and durable film that will protect cabinet for a long time and give it a new-like appearance. Requires very little rubbing.

No. P-412—4 oz. bottle Net Price \$.25
 12 bottles packed in strong corrugated box 2.40
 No. P-410—1 oz. bottle (as contained in Walco Utility Kit No. K-25)09



FURNITURE REFINISHING KIT

For touch-up work on furniture, pianos, radios, etc. Scratches, mars, dents, broken edges may be repaired quickly and without experience in cabinet refinishing. Also, anybody who wants to do his own refinishing will find this the most handy kit. It will pay for itself, often on the first job.

Kit contains: Polish Renewer, Patching Lacquer, Alcohol, Spirit Stains in Walnut, Mahogany, Maple and Black, Shellac-Rubbing-Fluid, Plastic Wood, 6 colors Stick Shellac, Alcohol Lamp, Spatula, 3 brushes and 8 sheets Garnet Finishing Paper. Comes in a strong, hinged, wooden case. Complete Instruction Book enclosed.

No. K-15—Shipping Weight 5 lbs. Net Price \$3.75

HOUSEHOLD APPLIANCE PATCHING KIT

The finest kit for touching up Refrigerators, Stoves, Washing Machines, Table Tops and all lacquered, enameled or porcelain Appliances. Dents, nicks, chipped porcelain, etc., can be repaired to such an extent that the patch is practically invisible. Stick-Shellac combination included makes emergency repairs possible in a few minutes.

Kit includes: Pure White Lacquer Enamel, Filling Compound, Tinting Colors in Red, Blue, Black and Yellow, 4 Shellac Sticks in White and Black, 2 Thinners, 2 Brushes, Alcohol Lamp, Spatula, Steel Wool, Sandpaper and Instruction Book. Comes in a strong wooden case with hinged lid.
 No. K-17—Shipping Weight 4½ lbs. Net Price \$3.75

WALSCO CRYSTALLIZING LACQUER



Can be used on metal, wood, cardboard, etc. Brushed on, it will dry in about 30 minutes, and will leave an absolutely professional finish. No spraying equipment or baking oven is necessary, and its application does not require experience. The finish obtained is the same as that on many chassis, panels, speakers, and transformers. Walco Lacquer Sealer should be used as undercoat if this lacquer is to be applied on porous materials, or over other finishes.

Standard Colors: Black, Green, Gray, Clear. Other colors can be supplied. (If no color is specified, we ship Black).
 No. GL-2—2 Oz. Jar Net Price \$.21
 No. GL-16—1 Pint Can Net Price \$1.20

WALSCO LACQUER SEALER

No. LS-2—2 oz. Jar Net Price \$.21
 No. LS-16—1 Pint Can Net Price \$1.20

Quality

XCELITE

Tools

XCELITE Shockless SCREWDRIVERS

● XCELITE is the original shock-proof, transparent handle screwdriver—introduced by us over FOURTEEN years ago.

Its attractive amber handle is both shock-proof and break-proof. It is specially designed to give the best possible grip—and is extremely easy on the hands. Blades are made of the finest Chrome Vanadium alloy steel, properly heat-treated, ground, and tested before assembly. Guaranteed not to burr.



R & E DISPLAY

This compact, attractive metal display contains an assortment of XCELITES specially designed for electric and radio requirements. Contains 55 screwdrivers in 22 sizes, including Phillips drivers. List Price, complete, \$39.45. Net \$26.30. Weight 17 lbs.

NOTE: First two (or three) numbers give diameters of blade, last numbers the length, as: R-144 = 1/4" diameter round blade 4" long, or S-3166 = 3/16" diameter square blade 6" long. "R" before the number means round blade; "S" means square blade.

Contains the following "XCELITES"

1 R-5323	1 R-1810	2 S-3166	4 R-3166
1 R-5324	1 R-31610	1 S-146	2 S-142
1 R-5325	3 X-101	1 R-148	2 R-142
1 R-5328	2 R-146	2 X-102	2 S-144
1 S-185	1 S-31610	3 R-144	3 S-141
1 R-186	1 S-3168	2 R-3163	2 SSX-102
3 R-184	2 S-3163	2 S-3168	1 SSX-101
1 R-188	2 S-3164	3 R-3164	

SCREW-HOLDING SCREWDRIVER

The Xcelite Screw-Holding Screw Driver is a tool for which electricians, radio men and mechanics everywhere have long searched. It is a genuine Xcelite product with a unique attachment that instantly and rigidly holds and starts any screw, even one without a head. Spring holder remains in place either above, below or exactly at the driver point. Grasps the screw at the head or 3/8" below giving three point suspension for greater rigidity. Can also be used for removing screws. Comes in 1/8" square blade, 3", 4" and 5". Packed 12 assorted lengths on metal display.

	List	Net
Display, complete	\$6.00	\$4.00
Each .....	.50	.33

Complete XCELITE Price List

SQUARE BLADES				ROUND BLADES			
No.	Size	List	Net	No.	Size	List	Net
SH-183	3/8" x 3"	\$0.50	\$0.33	*R-181	1/8" x 2"	\$0.26	\$0.17
SH-184	1/2" x 4"	.50	.33	†R-182	1/8" x 2"	.35	.23
SH-185	3/8" x 5"	.50	.33	*R-183	1/8" x 3"	.25	.17
S-183	1/8" x 3"	.35	.23	†R-184	1/8" x 4"	.40	.27
S-184	3/8" x 4"	.40	.27	*R-184 1/2	3/8" x 4"	.25	.17
S-185	1/2" x 5"	.40	.27	†R-186	1/8" x 6"	.45	.30
†S-3161	1/8" x 1"	.55	.37	†R-188	1/8" x 8"	.50	.33
S-3163	1/8" x 3"	.65	.43	†R-1810	1/8" x 10"	.55	.37
S-3164	1/8" x 4"	.70	.47	R-5323	3/32" x 3"	.50	.33
S-3166	1/8" x 6"	.75	.50	R-5324	3/32" x 4"	.50	.33
S-3168	1/8" x 8"	.80	.53	R-5325	3/32" x 5"	.50	.33
S-31610	1/8" x 10"	.90	.60	R-5328	3/32" x 8"	.55	.37
†S-141	1/4" x 1"	.55	.37	R-3163	3/16" x 3"	.60	.40
S-142	1/4" x 2"	.75	.50	R-3164	3/16" x 4"	.66	.43
S-144	1/4" x 4"	.80	.53	R-3166	3/16" x 6"	.70	.47
S-146	1/4" x 6"	.85	.57	R-3168	3/16" x 8"	.75	.50
S-148	1/4" x 8"	.95	.63	R-31610	3/16" x 10"	.85	.57
†S-5161	5/16" x 1"	.60	.40	R-142	1/4" x 2"	.70	.47
S-5162	5/16" x 2"	.80	.53	R-144	1/4" x 4"	.75	.50
S-5166	5/16" x 6"	1.00	.60	R-146	1/4" x 6"	.80	.53
S-5168	5/16" x 8"	1.10	.66	R-148	1/4" x 8"	.90	.60
S-51610	5/16" x 10"	1.20	.80	R-5166	5/16" x 6"	.95	.63
S-51612	5/16" x 12"	1.25	.83	R-5168	5/16" x 8"	1.05	.70
S-388	3/8" x 8"	1.20	.80				
†S-3812	3/8" x 12"	1.60	1.07				
†S-3818	3/8" x 18"	1.90	1.27				
†S-7166	7/16" x 6"	1.50	1.00				
†S-71612	7/16" x 12"	1.75	1.17				
†S-71618	7/16" x 18"	2.10	1.40				

† Stubby type.
† Large Double grip handles.

PHILLIPS SCREWDRIVERS

Xcelite Handles—Alloy Steel Blades

Cat. No.	Description	No. in Box	Weight per Box	List Price	Net Price
X-101	Length 3"	6	7/8 lb.	\$0.75	\$0.50
X-102	Length 4"	6	1 1/4 lb.	1.20	.80
X-103	Length 6"	6	2 1/4 lb.	1.50	1.00
SSX-101	Length 1 1/2" short stubby type	6	1 1/2 lb.	.70	.47
SSX-102	Length 1 1/2" short stubby type	6	1 1/4 lb.	.80	.53

PHILLIPS SCREWDRIVERS—Wooden Handles

Cat. No.	Description	No. in Box	Weight per Box	List Price	Net Price
P-101	Length 3"	6	1 1/2 lb.	\$0.50	\$0.33
P-102	Length 4"	6	1 1/4 lb.	.50	.33
P-103	Length 6"	6	2 lb.	.65	.43
SP-101	Length 1 1/2" short stubby type	12	1 1/2 lb.	.46	.30
SP-102	Length 1 1/2" short stubby type	12	1 1/4 lb.	.50	.33

No. 10 DISPLAY

— This Display consists of 10 screwdrivers with 5/32" chrome plated blades in assorted lengths of 3", 4" and 5" all mounted on a very attractive metal display.
List Price, Complete \$5.15
Net Price, Complete 3.43
List Price, ea. S.D. .50
Net Price, ea. S.D. .33

No. 12 DISPLAY

— Radio and Ignition Screwdrivers come complete with Pocket Klips assorted with 2", 3" and 4" chrome plated blades in the popular 1/8" diameter size. Packed 12 on an attractive metal display.
List Price, Complete \$3.15
Net Price, Complete 2.10
List Price, ea. S.D. .25
Net Price, ea. S.D. .17

No. 332 Display

— Same as No. 12 except diameter of blades is 3/32". Fits screws on knobs of midget sets; also for fine instrument work. List Price, Complete \$3.15
Net Price, Complete 2.10
List Price, ea. S.D. .25
Net Price, ea. S.D. .17

No. 24 DISPLAY

— The popular Xcelite pocket screwdriver (another original Xcelite introduction) has a 3/8" diameter chrome plated blade 2" in length. Comes 24 on an attractive metal display.
List Price, Complete \$6.20
Net Price, Complete 4.13



Quality

XCELITE

Tools

XCELITE NUT DRIVERS

Deep hex. sockets capable of handling two nuts are truly formed and entirely free from burrs—tempered and finished, handles of genuine amber XceLite are shockproof, breakproof and comfortable. Can be furnished with fully insulated shank if desired. Display stand holds 7 popular sizes either 6" or 9" long overall. Can also be furnished with 5 wrenches.

Nut Size	No. and Length	List Price	Net Price	No. and Length	List Price	Net Price
3/16"	No. 6—6"	\$0.65	\$0.39	No. A 6—9"	\$0.75	\$0.45
7/32"	No. 7—6"	.65	.39	No. A 7—9"	.75	.45
1/4"	No. 8—6"	.65	.39	No. A 8—9"	.75	.45
9/32"	No. 9—6"	.65	.39	No. A 9—9"	.75	.45
5/16"	No. 10—6"	.65	.39	No. A10—9"	.75	.45
11/32"	No. 11—6"	.65	.39	No. A11—9"	.75	.45
3/8"	No. 12—6"	.65	.39	No. A12—9"	.75	.45
7/16"	No. 14—6"	.85	.51	No. A14—9"	.95	.57
1/2"	No. 16—6"	.85	.51	No. A16—9"	.95	.57

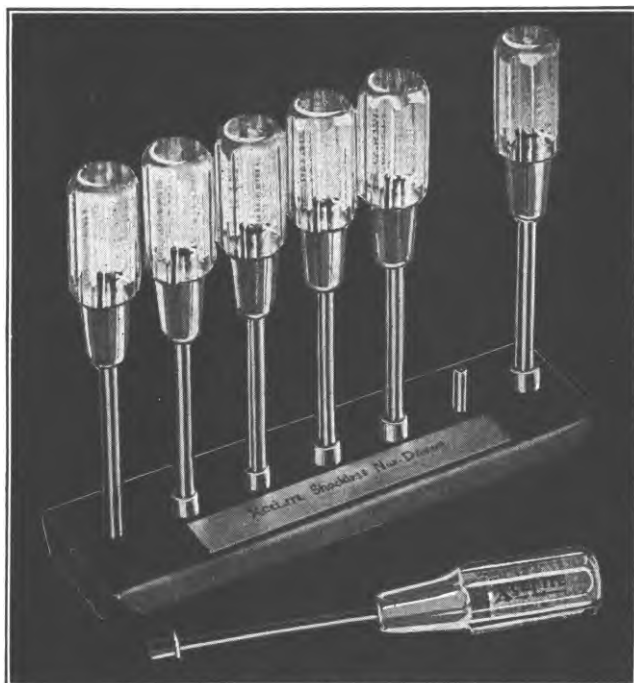
Average weight 2 lbs. per dozen

NOTE

For insulated shanks on No. 6 thru 16 \$0.15 list extra
 For insulated shanks on A6 thru A1615 list extra

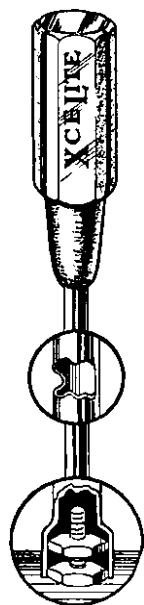
NUT DRIVER DISPLAYS

No.	List Price	Net Price
15—Nut Driver Display complete with 5 wrenches Nos. 6, 8, 10, 11, 12	\$3.45	\$2.07
17—Nut Driver Display complete with 7 wrenches No. 6 to No. 12	4.80	2.88
15—Display Rack only (holds 5 wrenches) .....	.20	.12
17—Display Rack only (holds 7 wrenches) .....	.25	.15



No. 17—Nut Driver Display

HOLLOW SHAFT NUT DRIVERS



This unique, time-saving tool was especially designed for general electrical and radio work. In radio, it is primarily useful in installing and removing volume control and other panel equipment. The nut is readily tightened or loosened without damage to the panel. On telephone or power switchboards, the Hollow Shaft Nut Driver is especially useful where nuts must be installed or removed over long protruding bolts or studs — made with or without insulated shafts. The former for use with high voltage work. Shafts insulated for protection up to 1000 volts; handles to 5000 volts.

Nut Size	Depth of Hole	No. and Length Overall	Weight per Box	List	Net	Insulated	
				List	Net	List	Net
3/16"	2 1/4"	HS-10 6"	2 lbs.	\$0.90	\$0.54	\$1.05	\$0.63
7/32"	2 1/4"	HS-11 6"	2 lbs.	.90	.54	1.05	.63
1/4"	5"	HS-12 6"	2 lbs.	1.00	.60	1.15	.69
9/32"	5"	HS-14 6"	3 lbs.	1.00	.60	1.15	.69
5/16"	5"	HS-16 6"	3 lbs.	1.00	.60	1.15	.69
3/8"	5"	HS-18 6"	3 1/2 lbs.	1.20	.72	1.35	.81
7/16"	5"	HS-20 7"	3 1/2 lbs.	1.40	.84	1.55	.93

STUBBY NUT DRIVERS

These tools have all the features of the regular XCELITE Nut Drivers, plus the advantage of a short shank for working in close or difficult quarters where a powerful grip is required. The Stubby Nut Driver is a mighty practical tool for installing car radios, working around carburetors, fuel pumps, shock absorbers, etc. Made in 1/4", 5/16", and 3/8" sizes, with extra-deep hexagon sockets to handle two nuts at once.

Sockets are truly formed and free of burrs. They are tempered and fully finished. Handles are genuine shockproof XceLite.

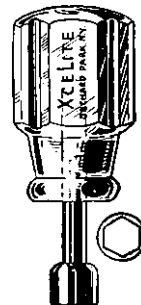
Handle, 1 1/4" diameter
 Overall Length 3 1/4"
 Shaft, 1 1/4" hollow
 Weight per doz., 1 1/2 lbs.

List Price

\$0.75

Net Price

\$0.45

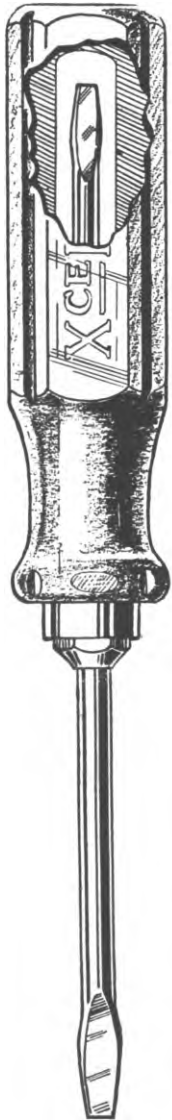


Quality

XCELITE

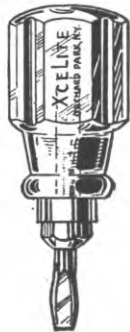
Tools

XCELITE "Combination Detachable" SCREWDRIVER



BALL FASTENER

STUBBY TYPE



Here's convenience—and saving—combined in a mighty unique and useful tool. The XCELITE Combination Detachable Screwdriver has a genuine Xcelite Shockless Handle, hollow to receive the dual-blade screwdriver units listed below. With this practical Xcelite handle and, for example, a No. 2 Phillips blade on one end and a 1/4" Xcelite blade on the other, you have **two** screwdrivers for just about the price of one! What's more, you can buy blades of other sizes to fit the same handle. Note the unique ball fastener on the blade. This holds the screwdriver unit securely in place—yet readily slips out when desired.

BLADE COMBINATIONS

(Order by Number)

No. 1 — No. 1 Phillips and 1/8" Xcelite

No. 2 — No. 2 Phillips and 1/4" Xcelite

No. 3 — 3/16" Xcelite and 1/4" Xcelite

STUBBY TYPE (overall length 3")

No. S-1 Stubby — No. 1 Phillips and 1/8" Xcelite

No. S-2 Stubby — No. 2 Phillips and 1/4" Xcelite

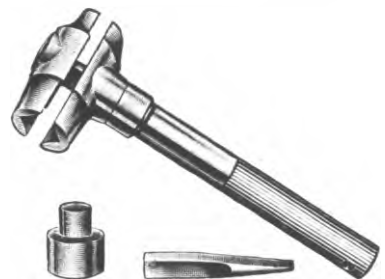
No. S-3 Stubby — 3/16" Xcelite and 1/4" Xcelite

PRICES

	Regular		Stubby	
	List	Net	List	Net
Complete	\$1.45	\$0.97	\$1.10	\$0.73
Extra Handles	.75	.50	.65	.43
Extra Blades	.75	.50	.50	.33

6" XCEL Adjustable SOCKET WRENCH (with Attachments)

A whole set of tools in one! Easy, light-weight tool to handle; yet super tough due to its drop-forged construction of special chrome nickel steel. Chrome finished. Fits any size nut, hexagon or square, round or odd shaped, from 1/4" to 1". Has two mighty useful attachments—hammer head of unbreakable XCELITE and an alloy steel screwdriver to insert in small end of wrench to form offset screwdriver.



List Price, complete, \$1.75

Special Dealer Price \$0.98

Individually boxed, packed 6 to a self-selling display carton.

Weight, 6 lbs.

Quality

XCELITE

Tools

XCEL PLIERS

XCEL pliers are made for radio and electrical work. They embody in their design suggestions from radio and electrical engineers and technicians. Recent advances in the manufacture of alloy steel have enabled us to still further improve the quality. From drop forging to final inspection, the best methods and highest standards prevail. Xcel pliers are fully guaranteed against defects of material or workmanship

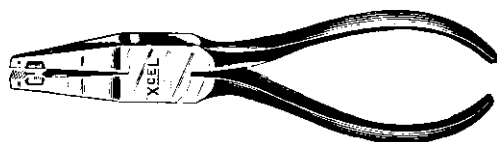
and any plier showing such defects will be cheerfully replaced if returned to us.

Please do not ask us to replace cutting pliers which have been abused by attempting to cut metal which has been case hardened or otherwise hardened. Pliers which have been filed or reground or burnt from a live wire are not replaceable. If pliers break, return ALL broken parts. Remember, pliers wear out. When they do, don't expect free replacement.



No. 60—Xcel Side Cutting Plier 6" List, \$1.75 Net, \$1.17

The handles of this plier are designed to afford the greatest leverage. The plier is lighter in weight than the regular lineman's side cutter and is designed for radio and light electrical work. Drop forged from finest alloy steel and skillfully tempered, its cutting qualities are unsurpassed by any side cutting plier. Knives are hand honed.



No. 58—Xcel Radio Special 7" List, \$2.75 Net, \$1.83

This plier must be seen to be appreciated. It combines the usefulness of a diagonal and needle nose. Excellent for crushing and stripping insulated wire. Knives are hand honed and useful in the "hard to get at" places.

NOTE: Not guaranteed against breakage.



No. 59—Xcel Chain Nose Electricians Plier 7 $\frac{3}{4}$ " List, \$2.25 Net, \$1.50

A plier that should be in every Radio and Electrical worker's kit. It has literally a dozen special uses. It is of very sturdy construction yet is so streamlined that it easily gets into places no other plier can. A very popular number. Drop forged from finest alloy steel.



No. 55—Xcel Diagonal 5" List, \$2.00 Net, \$1.33

This plier has special features not found in any other diagonal on the market and embodies suggestions made by Radio and Electrical engineers. The throat of the jaws is flattened for crushing insulation on wires before removal and for taking out "kinks" in the wire. These pliers are drop forged from a special analysis alloy steel and the most exacting care is used in their heat treatment. The jaws are hand honed and will cut clean and stand up. This is a special diagonal plier designed for Radio Electrical use exclusively. Not recommended for general use.



No. 57—Xcel extra Long Duck Bill 7" List, \$2.00 Net, \$1.33

This duck bill plier has that extra long reach for the hard to get at place. It is sturdy, being made from a special alloy steel. Made to fit the hand. A superior plier of this type.



No. 56—Xcel Wrench Plier 6" List, \$1.10 Net, \$0.73

Here is the handiest battery plier you ever used. It is so designed that gripping the handle forces the object in against the jaws instead of out and away. Will handle anything round, square or hexagon, a wonderful all around general purpose plier. Has jaws milled with pipe wrench teeth. Drop forged from tough nickel molybdenum steel, expertly heat treated. Range of jaws $\frac{7}{8}$ ". Three adjustments.



No. 51—Xcel Long Needle Nose and Side Cutter Plier 7" List, \$2.00 Net, \$1.33

Xcel long needle nose side cutting plier is drop forged from the finest alloy steel. The nose is spring tempered and the cutting knives are hand honed. Every radio repair man knows how handy this plier is.

No. 62—Xcel Ignition Plier 5" List, \$0.90 Net, \$0.60

This plier is of the same general construction as the No. 56 except it is much smaller, being 5" long. Extremely useful both for Radio and ignition work.

JACKSON SOLDERING IRONS

No. 121 55 WATTS



Tip $\frac{3}{8}$ dia. Length 11 in. Weight 8 oz. Highly polished nickel plated tube. 6 ft. Heater Cord with Rubber Cap. Mahogany Handle. Removable Copper Tip.

Model 121	List Price	\$1.50
Extra Tips, each.....	List Price	.25
Elements, each	List Price	.65

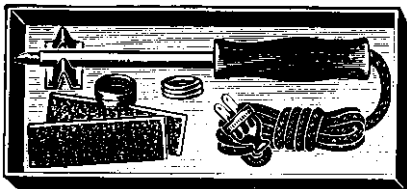
No. 216 55 WATTS



Tip $\frac{5}{16}$ dia. Length 12 in. Weight 8 oz. Highly polished nickel plated tube. 6 ft. Heater Cord with Rubber Cap. Mahogany Handle. Adjustable Copper Tip with set screw.

Model 216	List Price	\$1.50
Extra Tips, each.....	List Price	.25
Elements, each	List Price	.65

SOLDERING IRON KIT



Complete with 55 watt iron and stand. Gun Metal Finish. Removable Tip. Solder and Paste, Emery Cloth.
Model 121K

List Price \$1.50

No. 217 75 WATTS



Tip $\frac{3}{8}$ dia. Length 12 in. Weight 10 oz. Highly polished nickel plated tube. 6 ft. Heater Cord with Rubber Cap. Mahogany Handle. Adjustable Copper Tip with set screw.

Model 217	List Price	\$2.15
Extra Tips, each.....	List Price	.40
Elements, each	List Price	.95

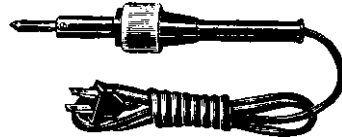
No. 218 100 WATTS



Tip $\frac{1}{4}$ dia. Length 12 in. Weight 14 oz. Highly polished nickel plated tube. 6 ft. Heater Cord with Rubber Cap. Mahogany Handle. Adjustable Copper Tip with set screw.

Model 218	List Price	\$2.50
Extra Tips, each.....	List Price	.55
Elements, each	List Price	1.75

SOLDERING PENCIL



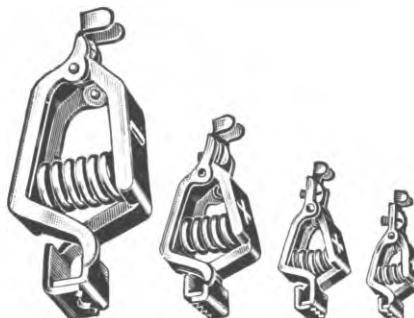
The Tool You've Been Waiting For! A 25-watt, $\frac{1}{4}$ inch soldering pencil that does the work of any 100-watt iron. The result of extensive research. Extremely economical. Brass wound, mica covered element guarantees durability. 6-ft. approved rubber cord and plug. Model 230, complete with 3 tips and stand.

Model 230	List Price	\$1.50
Model 231 ($\frac{3}{8}$ " tips—40 Watts).....	List Price	\$2.00

BATTERY CLIPS—Heavy Spring Jaw Clips for Instant Connection

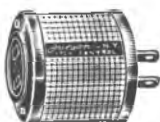
No. 206—Midget Size, 5 Amp.
Electro-Plated—1½ in. Long
List Price.....\$5.00 C

No. 123B—Small Size, 10 Amp.
Electro-Plated—2 in. Long
List Price.....\$5.00 C



No. 123—Medium Size, 25 Amp.
Electro-Plated—2¾ in. Long
List Price.....\$8.00 C

No. 124—Large Size, 50 Amp.
Electro-Plated—3¾ in. Long
All above packed 50 to Carton.
List Price.....\$12.00 C



No. 117
AUTOMATIC VOLTAGE CONTROL
For all standard Sets. Individual Box
List Price.....Each \$0.68

No. 125
HEAVY GRIP TITE GROUND CLAMP
With Set Screws—Electro-Plated
Packed 50 to Carton
List Price.....\$5.50 C



JACKSON SOLDERING IRONS

FEATURES

The sturdy construction of JACKSON Irons guarantees long usage and hard wear. Every part is carefully manufactured, and tested in our fac-

tory before shipping. Standard Soldering Irons are individually packed in orange and black cartons, plainly marked as to type and voltage.

No. 141 75 WATTS



Tip $\frac{1}{8}$ dia. Length 12 in. Weight 12 oz. Highly polished nickel plated tube. 6 ft. Heater Cord with Rubber Cap. Removable Mahogany Handle. Removable Copper Tip.

Model 141	List Price	\$3.00
Extra Tips, each	List Price	.40
Elements, each	List Price	1.35

No. 142 100 WATTS



Tip $\frac{1}{2}$ dia. Length 12 in. Weight 16 oz. Highly polished nickel plated tube. 6 ft. Heater Cord with Rubber Cap. Removable Mahogany Handle. Removable Copper Tip.

Model 142	List Price	\$3.75
Extra Tips, each	List Price	.55
Elements, each	List Price	1.75

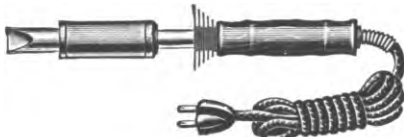
No. 144 150 WATTS



Tip $\frac{5}{8}$ dia. Length 12 in. Weight 20 oz. Highly polished nickel plated tube. 6 ft. Heater Cord with Rubber Cap. Removable Mahogany Handle. Removable Copper Tip.

Model 144	List Price	\$6.00
Extra Tips, each	List Price	.80
Elements, each	List Price	2.75

No. 143 200 WATTS



Tip $\frac{3}{4}$ dia. Length 13 in. Weight 24 oz. Highly polished nickel plated tube. 6 ft. Heater Cord with Rubber Cap. Removable Mahogany Handle. Removable Copper Tip.

Model 143	List Price	\$8.00
Extra Tips, each	List Price	.95
Elements, each	List Price	3.75

No. 149 75 WATTS



Tip $\frac{1}{8}$ dia. Length 12 in. Weight 12 oz. Highly polished nickel plated tube. 6 ft. Heater Cord with Rubber Cap. Removable Black Handle. Adjustable Copper Tip with set screw.

Model 149	List Price	\$3.25
Extra Tips, each	List Price	.55
Elements, each	List Price	1.20

No. 145 100 WATTS



Tip $\frac{3}{8}$ dia. Length 12½ in. Weight 16 oz. Highly polished nickel plated tube. 6 ft. Heater Cord with Rubber Cap. Removable Black Handle. Adjustable Copper Tip with set screw.

Model 145	List Price	\$4.50
Extra Tips, each	List Price	.65
Elements, each	List Price	1.85

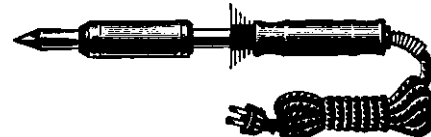
No. 146 150 WATTS



Tip $\frac{1}{2}$ dia. Length 12½ in. Weight 20 oz. Highly polished nickel plated tube. 6 ft. Heater Cord with Rubber Cap. Removable Black Handle. Adjustable Copper Tip with set screw.

Model 146	List Price	\$7.00
Extra Tips, each	List Price	.80
Elements, each	List Price	2.75

No. 147 200 WATTS



Tip $\frac{3}{8}$ dia. Length 12½ in. Weight 24 oz. Highly polished nickel plated tube. 6 ft. Heater Cord with Rubber Cap. Removable Black Handle. Adjustable Copper Tip with set screw.

Model 147	List Price	\$10.00
Extra Tips, each	List Price	1.10
Elements, each	List Price	3.75

Approved by Underwriters Laboratories



Patent Pending

● From a handy Benchstand containing 36 hardwood rods varying in length from 1½" to 8", you can readily select any length of support. Simply insert the needed rods into respective bases, which are provided with a spring-tight fit,—and within a few seconds you have a substantial support for any chassis.

● The photographs below representing sets of all vintages will convince you of the efficiency of this much needed Tool.

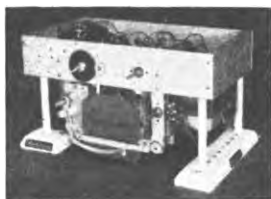
Radiojac

THE IDEAL TOOL TO SUPPORT YOUR RADIO CHASSIS

● Every Radio Serviceman will agree on his past experience with inadequate and bulky contrivances and how he continues to use old batteries, blocks, boxes, and whatnot for this purpose.

● RADIOJAC is designed to fill this long-felt need. It offers the following Advantages over any other device for this purpose:

1. RADIOJAC is the only device which will actually support any chassis regardless of size, age or weight.
2. RADIOJAC is set up without any loss of time — without screwing or clamping.
3. The Support is rigid, due to a patented spring-tight fit between rod and base.
4. The Chassis is free to be turned without interference with speaker leads.
5. RADIOJAC requires very little bench space—only 2½" x 9".
6. RADIOJAC is low in price.



Only \$1.60

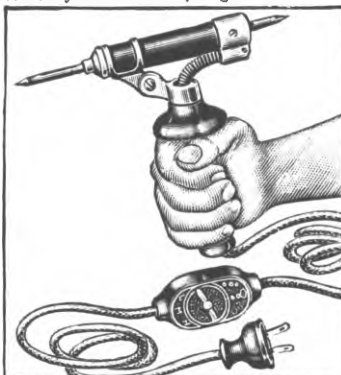
NET TO SERVICEMEN

Benchstand with
36 Hardwood Rods
from 1½" to 8"
1 Large Base
3 Small Bases

THE SUPREME MODEL 525 SOLDERING TOOL

"SUPREME BY COMPARISON"

- (1) The greatest individual contribution to the art of soldering in many years. Unexcelled for radio, telephone, and general soldering.
- (2) Three definite, different core heats controlled by cord switch, together with adjustable soldering rod provide a great number of possible tip temperatures.
- (3) Non-scaling copper soldering rod may be extended 6 inches maximum from heating body to reach locations totally inaccessible with straight soldering tools.
- (4) Either end of soldering rod may be used by simply turning tool over in the hand, thus allowing two different types of points for instant use.
- (5) Soldering rod easily removable for pointing and shaping.
- (6) Soldering rods obtainable in a variety of shapes.
- (7) New working comfort with perfect mechanical balance is allowed by the handle mounted at right angles to the heating body.
- (8) Pivot mounting allows heating body to be set at any angle from parallel to approximately 110 degrees with handle thereby allowing additional flexibility to meet working conditions.
- (9) Heating unit which is easily replaceable reaches working temperature quickly.
- (10) Wattages: 75 watts for general light work; 125 watts for medium work and rod extensions to approximately 4 inches; 200 watts for quick heating from cold, heavy duty soldering, and for rod extensions to 6 inches.
- (11) Weight approximately 18 ounces.
- (12) Also available in single heat models.



THE SUPREME MODEL 525 SOLDERING TOOL

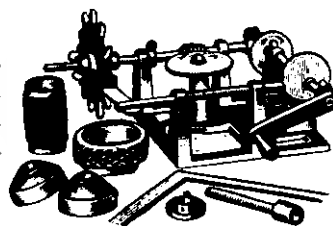
(Triple-Heat—75, 125 and 200 Watts)
Net Price\$6.75
(Single-Heat—125 Watts)
Net Price 6.00

MORRIS DELUXE COIL WINDER

Will wind Honey Comb, Spiderweb, or Solenoid coils of various widths and diameters. Equal in appearance to factory-made coils. Includes all accessories necessary for winding the various types. Has recorder and indicator that counts turns. Black enamel finish. Shipping Weight 6 lbs.

NET PRICE

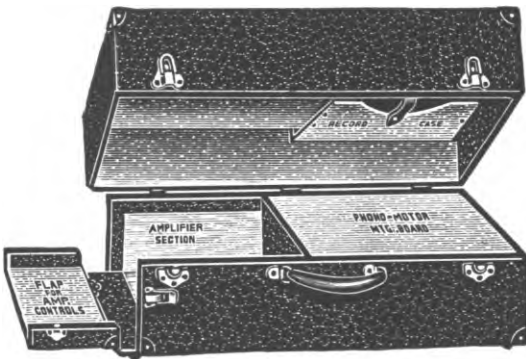
\$4.35



CUSTOM CARRYING CASES

The portable carrying cases listed on this page are constructed of a strong, heavy plywood designed to withstand hard usage under all conditions. The panels are covered with a neat and durable black fabrikoid that will last indefinitely. The cases are equipped with heavy-duty, reinforced carrying handles, extra heavy leather corner posts, and strong rust-proof clasps that prevent accidental opening. These cases are a necessary and convenient means by which the sound man can readily transport his public address equipment from place to place.

Combination Amplifier and Phonograph Case



An especially designed carrying case with two separate compartments for an amplifier and phonograph. The top cover of the case contains a separate space for carrying 10" and 12" records. A mounting board for the phonograph is also included. The case opens on two sides; accessibility to the amplifier controls is provided by means of a drop front at one end of the case. The overall dimensions are: 18" high, 24 $\frac{3}{4}$ " long, and 10 $\frac{5}{8}$ " deep.

Model No. 50
List Price

\$19.35

Dual Speaker Case

This dual speaker case fills a long-felt need. Two speakers, mounted and ready to work, are carried in one case. Each side of the case, when open, will stand by itself without any outside support, making for instant and convenient installation. When used in conjunction with the combination Amplifier and Phonograph case illustrated at left, a complete sound system up to 40 Watts is available in only two handy carrying cases.

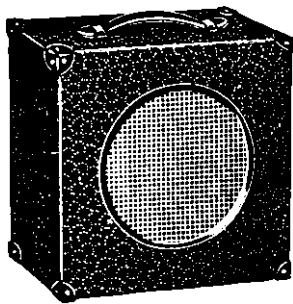


This type of carrying case is constructed in two separate sections which are diagonally cut so as to afford the largest mounting space possible in the given size. Each section will accommodate a speaker 12" in diameter and has sufficient baffle area for an exceptionally fine frequency response. The case is constructed of a high grade plywood fabricoid covered, and is made to withstand rough wear. It is reinforced with special leather corners for protection at these points. Leather bumpers on the base sides will prevent marring of any mounting surface. The case comes furnished with metal speaker screens. The overall dimensions are: 25" high, 17 $\frac{1}{2}$ " wide, and 10 $\frac{1}{2}$ " deep.

Model No. 52
List Price

\$10.50

Speaker Cases

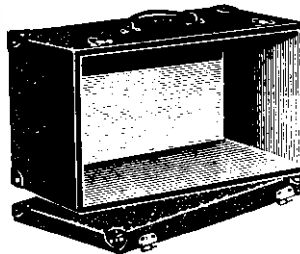


Two serviceable portable speaker cases for 10" to 12" speakers. The high-grade heavy plywood with rounded corners, the beautiful black fabrikoid covering, the heavy-duty carrying handle, and the metal bumpers make these cases an exceptional value at this low price. There are sufficient openings in the detachable back to prevent cone pressure.

For 10" speakers; Size: 13"H. x 12 $\frac{1}{2}$ " W. x 10"D.
Model No. 54
List Price \$5.85

For 12" speakers; Size: 15"H. x 15"W. x 10"D.
Model No. 56
List Price \$8.00

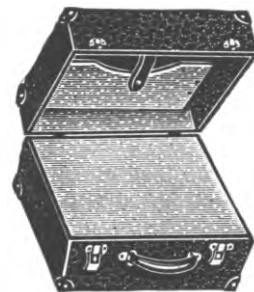
Portable Amplifier Carrying Case



A large-sized carrying case designed to accommodate all makes of amplifiers. It has a removable drop-front that permits quick and easy accessibility to the controls. High grade, durable plywood construction, attractive fabricoid covering, reinforced heavy leather corners, regulation luggage handle, rustproof clasps. The overall dimensions of the case are: 10 $\frac{3}{4}$ " high, 17 $\frac{1}{2}$ " long, and 11 $\frac{3}{4}$ " deep. There is sufficient space provided to carry such additional equipment as cables and other small accessories.

Model No. 58
List Price \$9.60

Portable Phonograph Case



Large enough to accommodate any standard make phonograph motor such as General Electric or Green Flyer. There is also sufficient room for mounting a phono pickup. The top section contains a compartment for carrying 15 records. The case comes equipped with a mounting board. Furnished with metal bumpers. Size: 12 $\frac{3}{4}$ " high, 14 $\frac{3}{8}$ " wide, 8 $\frac{3}{8}$ " deep.

Model No. 60
List Price \$7.50

Automatic Record Changer Case

A carrying case designed especially for the Packard Automat'c Record Changer. The top cover is equipped with an inclined, felted board that acts as a receiver for the ejected records. The case is already cut out to the exact requirements of the record changer. A small opening is provided on the outside of the case for any plug connection that may be desired. The hole is covered with the black fabricoid and is not visible from the outside if not used. Size: 12 $\frac{3}{4}$ " high, 12 $\frac{3}{4}$ " wide, and 7 $\frac{1}{2}$ " deep.

Model No. 62
List Price \$9.60

VASCO

TRADE-MARK REG. U. S. PAT. OFF.

ELECTRIC SOLDERING IRONS

(APPROVED BY UNDERWRITERS' LABORATORIES)

No. 85—A brand new iron in the VASCO line for high speed soldering on wiring and other light electrical work.



Cat. No.	Diameter of Tip	Watts	Net Weight	Length Over All	Diameter Over All	Shipping Weight Approximate	List Price	Extra Element No. 85E	Extra Tip No. 10038
85	3/8 in.	85	14 oz.	12 ins.	3/4 in.	2 lbs.	\$5.50	\$2.35	\$0.40

No. 100—Used exclusively by radio factories, telephone switchboard work and other light duty production jobs.



Cat. No.	Diameter of Tip	Watts	Net Weight	Length Over All	Diameter Over All	Approximate Shipping Weight	List Price	Extra Element No. 100E	Extra Tip No. 10038
100	3/8 in.	100	16 oz.	12 3/8 ins.	3/8 in.	2 lbs.	\$7.20	\$3.60	\$0.40

No. 150—A medium weight iron for chassis spotting, radio work, small metal parts. Provides the extra heat needed for many jobs.



Cat. No.	Diameter of Tip	Watts	Net Weight	Length Over All	Diameter Over All	Approximate Shipping Weight	List Price	Extra Element No. 150E	Extra Tip No. 15012
150	1/2 in.	130	19 oz.	12 3/8 ins.	1 in.	2 lbs.	\$7.50	\$4.75	\$0.80

No. 180—An excellent iron for general shop and garage use. Large enough for light sheet metal work, and auto electricians.



Cat. No.	Diameter of Tip	Watts	Net Weight	Length Over All	Diameter Over All	Approximate Shipping Weight	List Price	Extra Element No. 180E	Extra Tip No. 20058
180	5/8 in.	200	28 oz.	13 3/8 ins.	1 1/4 ins.	3 lbs.	\$8.60	\$5.25	\$1.00

No. 300—Used extensively for sheet metal work, small motor factories, general service, and production work.



Cat. No.	Diameter of Tip	Watts	Net Weight	Length Over All	Diameter Over All	Approximate Shipping Weight	List Price	Extra Element No. 300E	Extra Tip No. 30078
300	3/4 in.	300	42 oz.	14 3/8 ins.	1-9/16"	4 lbs.	\$11.50	\$6.50	\$1.75

No. 500—A heavy duty industrial iron for hard service. Used by tin shops, copper-smiths and other production jobs requiring a heavy iron.



Cat. No.	Diameter of Tip	Watts	Net Weight	Length Over All	Diameter Over All	Approximate Shipping Weight	List Price	Extra Element No. 500E	Extra Tip No. 55098
500	1 1/8 in.	500	60 oz.	15 ins.	1 3/4 ins.	5 1/2 lbs.	\$15.00	\$10.00	\$2.50

All irons furnished for 105-120 volts, A.C. or D.C., also 215-230 volts A.C. or D.C. Special voltages can be furnished upon request.

HOTSPOT

ELECTRIC SOLDERING IRONS

(APPROVED BY UNDERWRITERS' LABORATORIES)

TRADE-MARK

THE 1939 Series HOTSPOT IRONS are the finest popular priced iron on the American market. ALL HOTSPOT irons are furnished with the NEW bakelite handle, which incorporates terminal connector, strain relief, and handle all in one. NEW also is the highly efficient finned heat retarding union—keeps the handle cool at all times. These are exclusive HOTSPOT features. (Patents pending.)



Cat. No. 750—75 Watts— $\frac{1}{2}$ " Tip.
Weight 8 oz.
LIST PRICE.....\$2.50
Extra tip, No. 750T..... .30
Extra element, No. 750E..... .85

A medium weight iron for radio, wiring and other light soldering jobs. New Bakelite handle. Just the iron for the home, shop or garage. HEATS QUICKLY.



Cat. No. 850—85 Watts— $\frac{3}{8}$ " Tip.
Weight 12 oz.
LIST PRICE.....\$4.00
Extra tip, No. 10038..... .40
Extra element, No. 850E..... 1.50

This is an efficient, quick-heating iron for wire connections and other light soldering jobs. Equipped with plunger tip and indestructible element, same as used in higher-priced irons.



Cat. No. 10—100 Watts— $\frac{3}{8}$ " Tip.
Weight 1 lb.
LIST PRICE.....\$4.50
Extra tip, No. 10038..... .40
Extra element, No. 10E..... 1.75

An ideal iron for radio assembly and other light soldering. Plunger tip completely surrounded by element, thereby utilizing maximum heat.



Cat. No. 15—150 Watts— $\frac{1}{2}$ " Tip.
Weight 1 lb. 4 oz.
LIST PRICE..... 5.50
Extra tip, No. 15012..... .80
Extra element, No. 15E..... 2.50

Has the extra heat necessary for chassis spotting. An excellent iron for the shop, radio work, etc.



Cat. No. 18—200 Watts— $\frac{5}{8}$ " Tip.
Weight 2 lbs.
LIST PRICE.....\$7.50
Extra tip, No. 20058..... 1.00
Extra element, No. 18E..... 3.75

A general purpose iron for shop, garage and light sheet metal work. Also used by radio factories

(See other side)

American Beauty

ELECTRIC SOLDERING IRONS

Durable • Dependable • Efficient

"American Beauty" Electric Soldering Irons embody those features of design and construction that 46 years of specialized experience in the exclusive manufacture of electric heating appliances have demonstrated to be desirable for efficient and lasting service.

RELATIVE SIZES AND SPECIFICATIONS

Nos. 3138 to 3198 are typical in design and construction, varying only in sizes and capacities. All are built with baffle-plate to prevent free conduction of heat from heating unit to wood handle. Baffle-plate of No. 3138 is of such dimensions as not to interfere with the use of the iron in limited spaces. Can be supplied in special wattages to meet particular conditions. Made for use on all standard voltages and for 32 volts. No. 3138 also made for use on 12 volts. Nos. 3138 to 3198 can be equipped with 3-conductor cord, one wire grounded, at slight additional charge.

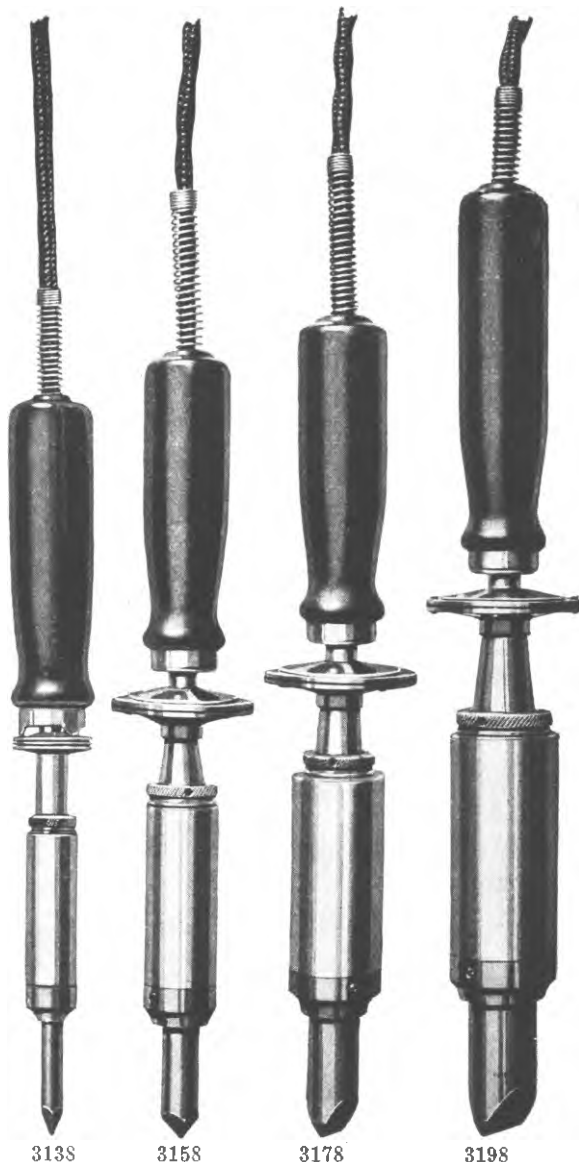


S-76

No. S-76 is a small iron designed and intended for very light work. Its wattage consumption is but 50 watts. It differs from the Nos. 3138 to 3198 in design and construction. Its tip is of the screw-on type, with tapered fit, and screws on to aluminum head of heating element.

Cat. No.	Watts	Diam. of Tip	Length Over All	Net Weight
S-76	50	$\frac{7}{16}$ in.	11 $\frac{1}{8}$ in.	6 oz.
3138	100	$\frac{5}{8}$ in.	12 $\frac{7}{8}$ in.	16 oz.
3158	200	$\frac{5}{8}$ in.	13 $\frac{3}{8}$ in.	28 oz.
3178	300	$\frac{7}{8}$ in.	14 $\frac{3}{8}$ in.	42 oz.
3198	550	1 $\frac{1}{8}$ in.	15 in.	60 oz.

S-76—List Price..... \$4.50 Net Price.....\$2.98



3138

3158

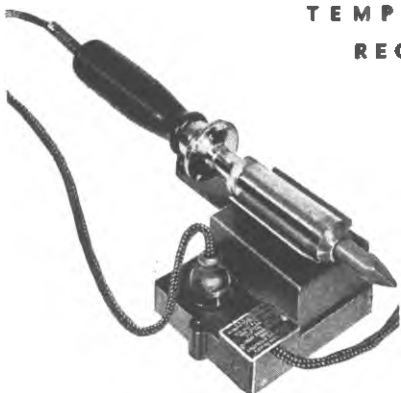
3178

3198

List	\$7.20	\$8.60	\$11.50	\$15.00
Net	4.79	5.72	7.67	9.98

TEMPERATURE REGULATING STAND

No. 475



List Price

\$4.95

Net Price

\$3.46

← This is a thermostatically controlled device for the regulation of the temperature of electric soldering irons. When placed on this stand, the soldering iron is maintained at working temperature, ready for instant use, or if desired, at a lower temperature. Through an adjustment on bottom of stand, thermostat may be set for maintenance of any desired temperature from very low, or warm, to full working temperature. Body of stand is of molded plastic. Soldering iron holder proper is of copper. Stand is provided with cord and attachment-plug cap for connection to current and with a receptacle for connection of the electric soldering iron. It is designed for use with electric soldering irons up to 660 watts capacity and on circuits up to 240 volts, AC only.

Belden ★ ★ SOLDERING IRONS

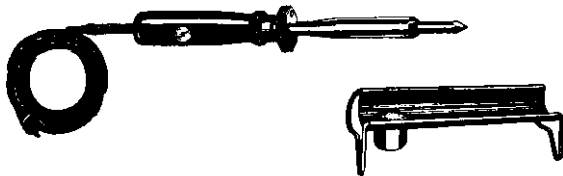
Three Belden soldering irons provide a range of sizes to take care of practically all radio service and communications work. Sturdy construction throughout assures long service life.

Features include:

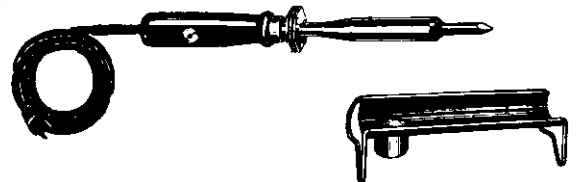
- 1—High quality Nichrome heating element.
- 2—Machined copper tips extend into element for faster heating.
- 3—A 6-ft. Belden "Corditis-free" 3000-cycle heater cord.

- 4—Easy replacement of tips or elements.
- 5—"Easy-Grip" handle.
- 6—Hexagonal baffle plate prevents rolling.
- 7—Metallic parts fully nickel-plated.
- 8—Portable soldering iron stand as indicated.

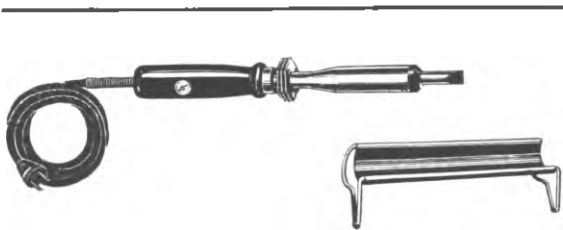
NOTE: Be sure to select an iron that is large enough for the work to be done. Tin tips before using. Material to be soldered must be thoroughly clean. In soldering, surface should be preheated with iron.



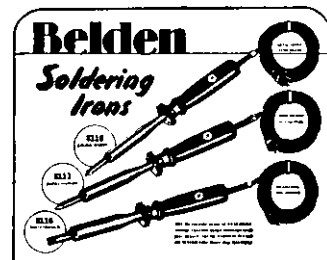
- ★8110 80-Watt iron with $\frac{3}{8}$ " tip. For light work. Complete with stand including tip cleaner. List price each. \$4.40
DEALER NET—\$2.65
- ★8111 Replacement 80-watt element for 8110. List price each. \$2.00
DEALER NET—\$1.20
- ★8112 Replacement tip ($\frac{3}{8}$ " for 8110 or 8113. List price each. \$.45
DEALER NET—\$.24



- ★8113 100-Watt iron with $\frac{3}{8}$ " tip. For medium light service. Complete with stand including tip cleaner. List price each. . \$4.90
DEALER NET—\$2.95
- ★8114 Replacement 100-watt element for 8113. List price each. \$2.65
DEALER NET—\$1.60
- ★8112 Replacement tip ($\frac{3}{8}$ " for 8110 or 8113. List price each. \$.45
DEALER NET—\$.24



- ★8116 150-Watt iron with $\frac{1}{2}$ " tip. For medium heavy work, chassis spotting, etc. Complete with stand. List price each. . \$5.95
DEALER NET—\$3.60
- ★8117 Replacement 150-watt element for 8116. List price each. \$3.30
DEALER NET—\$2.00
- ★8118 Replacement tip for 8116. List price each. \$.70
DEALER NET—\$.40

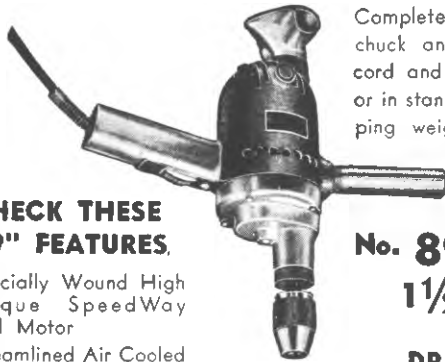


- ★8120 Soldering iron display combination includes one each 8110, 8113, and 8116 mounted on attractive display board. List price. \$15.25
DEALER NET—\$9.20
- ★8119 Replacement heater cord only. 6-ft. Belden 3000 cycle heater cord with Belden Unbreakable Soft Rubber Plug. Opposite end stripped and tinned. List price. . \$.50
DEALER NET—\$.27

1/2 INCH DRILL

SpeedWay

PORTABLE BENCH GRINDER



CHECK THESE "89" FEATURES,

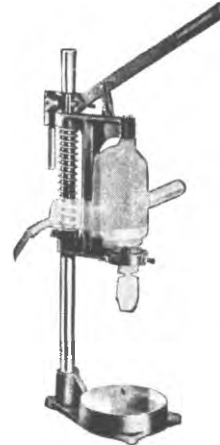
- Specially Wound High Torque SpeedWay Drill Motor
- Streamlined Air Cooled Die Cast Case
- Natural Grip Direct Thrust Breast Plate Handle
- Removable Side Handle for Close Quarters
- Self Aligning Oilless Bearings
- 500 R.P.M. Operating Speed
- Smooth Sliding Thumb Switch
- Permanently Beautiful 2-Tone Finish
- Self-Aligning Drill Stand
- Standard Packages of 3 Drills, or 3 Stands

Complete with hand operated 3-jaw 1/2" chuck and rubber covered waterproof cord and unbreakable plug. Sold singly or in standard packages of 3 drills. Shipping weight singly, 9 1/2 lbs. Shipping weight of standard package, 32 lbs. Key operated Jacobs chuck, \$5.00 extra.

No. 89
1 1/2" SpeedWay
DRILL \$24.50

Climaxing SpeedWay's 30 years of specialization in the design and manufacture of portable electric tools comes the SpeedWay No. 89—a superior 1/2" capacity industrial drill with a list price of \$24.50. Here is a marked achievement made possible by long drill experience, masterful drill engineering, modern manufacturing methods and quantity production. Only SpeedWay could produce an "89."

Much more than a phenomenally low price drill, the SpeedWay No. 89 is in many ways the best standard 1/2" drill available at any price. It has a wide safety factor of excess power light weight and a better motor and masterfully engineered back gearing. Operates at 500 R.P.M.—gets work done. It is more efficiently cooled—is cooler running, hence longer lived. It has a new type breast plate handle that permits a natural, less fatiguing grip and applies thrust directly behind the drill point, increasing accuracy (straight holes) and relieves wrist strain. It is beautifully styled with a modern streamlined case finished in lacquered white metal and crackle blue.



No. 209
STAND
ONLY

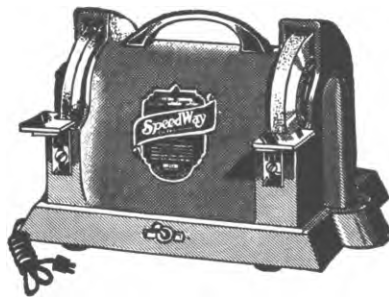
\$9.50

Weight of Stands, each 21 lbs. Weight Standard Package of 3 No. 209 Stands, 68 lbs.

The No. 209 Drill Stand is lever operated, sturdily built with machined and ground base, and has ears for bolting to bench. The drill bracket is cast in one piece, is line bored and holds the drill rigidly and accurately perpendicular in all positions. Drill and bracket can be instantly adjusted for height with two thumb nuts. With this bracket a No. "89" Drill makes a convenient, accurate and serviceable Drill Press.

SpeedWay No. 119 PORTABLE BENCH GRINDER

Complete with 110 V AC Motor, 1 coarse and 1 fine grinding wheel—each 4 3/8 x 3/8", built-in toggle switch, cast housing, cast base with 4 rubber feet, and a 6-foot rubber covered cord and plug.



\$9.85

With DC Motor
\$1.00 Extra

A handy and capable portable electric bench grinder with self contained, direct connected motor that swings two 4 3/8" x 3/8" grinding wheels, completely housed in a modern streamlined, cast housing, with built-in toggle switch and adjustable (or removable) tool rests, carrying handle, rubber feet, and 6 ft. rubber covered cord and plug.

Ideal for sharpening drills, hand tools, knives and cutter bits—for a hundred home and industrial grinding jobs. Goes to the work—in the shop, the kitchen, the garage, etc., etc., plugs into any 110 volt outlet, saves endless steps and valuable time.

It's safe around the home for motor and wheels are completely covered except at working point. Rubber feet deaden noise and give a non-slipping base that will not mar the finest finish. Cast-in ears are there if permanent installation is desired. Rigid tool rest slides in or out to give desired tool angle or compensate for wear of wheel, or can be removed with the turn of a thumb screw.

Stop spoiling work with dull tools; Craftsman, mechanic, handyman or tinkerer the Speedway Type 119 is the Grinder you have been waiting for, and it's yours complete with one fine and one coarse grinding wheels, ready for use.

1/4 INCH DRILL



No. 250 KIT HAND GRINDER

The spread of the homecraft movement has led to the general use of power tools in the home and created a vast new market for popular priced electric drills and grinders. During the last few years paralleling the growth of the home market there has been a definite trend among designers of industrial drills toward smaller, lighter, more compact designs. SpeedWay, with their 30 years of experience in the design and manufacture of portable electric tools, has pioneered the development of lighter, more economical equipment.

Now, by combining this specialized tool engineering experience with new scale production methods, masterfully engineered back-gearing, new and stronger die cast metals, etc., SpeedWay has produced two remarkable tools, the SpeedWay 69 Drill and the SpeedWay No. 129 Grinder—miniature tools at "toy" prices—still in fact, husky, quality tools with the power and performance of drills weighing and costing twice as much.

SpeedWay No. 69 DRILL



\$7.95

The SpeedWay No. 69 Drill establishes a new standard in the miniature, moderate priced field. The handle and gear case are die cast zinc alloy, polished and lacquered, the body shock-proof, heavy gauge steel, finished in baked crackle enamel. The design permits direct line application of thrust—makes straight drilling not only possible but natural. The switch is correctly located—can be instantly flipped with the thumb without shifting grip. Heavy steel gears completely incased in die cast housing—run in grease. The 1/4" chuck is of improved 3-jaw type. Powered by series wound 110v universal SpeedWay Motor, with built in cooling fan. Comes complete with 6 ft. of reinforced rubber covered cord and rubber plug. No. 69 Drill only, net weight 2 1/4 lbs.

SpeedWay No. 129 GRINDER

The design of the SpeedWay No. 129 Grinder is based upon a practical knowledge of grinding and cutting requirements. It is shaped to fit the hand, and give maximum tool clearance and visibility at point of work at all angles of application. The guide finger support permits gripping well forward on the collet, a feature that greatly increases both power and accuracy in grinding, routing, touching-up or cutting.



Two collets are furnished with Grinder..... $\frac{3}{32}$ " and $\frac{1}{8}$ ". The SpeedWay 129 Grinder operates at 20,000 R.P.M., much faster and hence much more efficiently than other similarly priced grinders. Its machine type collet takes all standard burs, cutters, brushes, disks, and wheels with arbors from $\frac{3}{32}$ " to $\frac{1}{8}$ " permitting quick tool changes and clearance adjustments. It is equipped with the same special air cooled SpeedWay motor used in the drill. No. 129 Grinder only, net weight 1 1/4 lbs.—No. 129 GRINDER..... **\$5.95**

No. 69 DRILL **\$7.95**



Complete with No. 129 Grinder SpeedWay ROUTER

\$9.90

A light, fast, accurate Portable Router or Shaper consisting of a SpeedWay No. 129 all purpose Hand Grinder and a SpeedWay No. 309 Router Frame. This

Portable Router is universal in its application: It has an adjusting "T" guide for edging (edge Shaping) or parallel to edge routing (as for inlay striping). This guide has a "V" center that will follow any circle, regardless of diameter. Remove the "T" guide and you have a handy free router or shaper. And, with the tool-point guard "flopped" it is ready for templet work. Fast (20,000 R.P.M.) it makes smooth cuts that require a minimum finishing. Light weight and handy it is ideal for bench, wall or overhead work.

No. 309 SpeedWay Router Frame (without grinder).....**\$3.95**
Price includes one 1/8" router bit. Extra 1/8" router bits 60c each

SpeedWay COMBINATION STAND



Designed and built for use with the SpeedWay No. 69 Drill and No. 129 Grinder, this ingenious all-purpose stand converts a 69 Drill into an accurate and complete drill press, the 129 Grinder into a router, or horizontal lever-fed grinder, or with head reversed into a convenient shaper. Every drill owner will want this stand.

No. 229 STAND..... **\$3.95**



COMBINATION KIT

Every home, shop, laboratory, studio and garage should have a SpeedWay 250 Kit, consisting of a SpeedWay 69 Drill, a SpeedWay No. 129 Grinder and 5 accessories, all in a fitted steel carrying case. The case, which is finished in matching blue crackle enamel, measures 8" x 10" x 4", has a hinged top, fastener and carrying handle. Though the drill, grinder, and accessories can be purchased separately, we recommend that the Kit be sold wherever possible, for then you have the most efficient tool for each job—a tool with the correct speed, right cutting edge and most convenient approach, as well as a steel case for keeping them at the bench or carrying them to the job. 250 Kit complete, net weight 6 1/4 lbs.

No. 250 KIT COMPLETE..... **\$14.95**

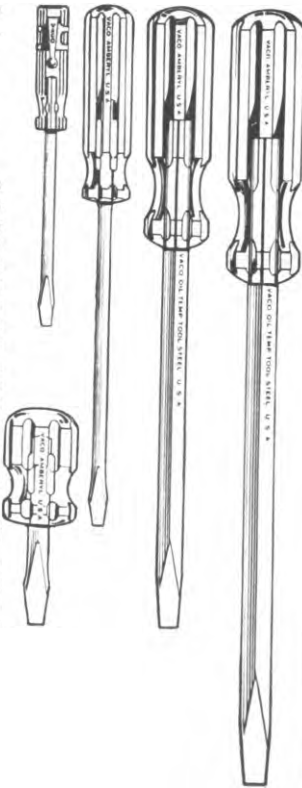
V A C O

**AMBERYL SHOCK & BREAK PROOF HANDLE SCREW DRIVERS
DEEP GROOVE SURE GRIP HANDLES—RUST PROOFED BLADES—FULLY GUARANTEED**

AMBERYL "Lifetime" TOOL STEEL SCREW DRIVERS

The finest tool steel blades, heat treated to give long hard service—FULLY GUARANTEED.

Stock No.	Blade Size	Style	List each	Dealer each
A116	2"- .0925x2	Pocket Clip	\$.30	\$.18
A116	3"- .0925x3	Pocket Clip	.30	.18
A116	4"- .0925x4	Pocket Clip	.30	.18
A130	2"- 1/8x2	Pocket Clip	.25	.15
A130	3"- 1/8x2	Pocket Clip	.25	.15
A130	4"- 1/8x3	Pocket Clip	.25	.15
A132	1 1/2"- 1/4x1 1/4	Stub	.50	.33
A216R	4"- 1/8x4	Narrow Bit	.35	.23
A216R	6"- 1/8x6	Narrow Bit	.40	.26
A216R	8"- 1/8x6	Narrow Bit	.45	.28
A216R	10"- 1/8x10	Narrow Bit	.50	.30
A316R	3"- 3/16x3	Round Blade	.50	.30
A316R	4"- 3/16x4	Round Blade	.50	.33
A316R	5"- 3/16x5	Round Blade	.55	.36
A316R	6"- 3/16x6	Round Blade	.60	.39
A316R	8"- 3/16x8	Round Blade	.65	.42
A316S	1"- 3/16x1	Square	.60	.39
A316S	6"- 3/16x6	Square	.65	.42
A316S	8"- 3/16x8	Square	.70	.45
A416R	1"- 1/4x4	Round Blade	.60	.39
A416R	5"- 1/4x5	Round Blade	.65	.42
A416R	6"- 1/4x6	Round Blade	.70	.45
A416R	8"- 1/4x8	Round Blade	.75	.48
A416S	4"- 1/4x4	Square	.75	.48
A416S	6"- 1/4x6	Square	.80	.54
A416S	8"- 1/4x8	Square	.85	.57
A516R	1"- 5/16x4	Round Blade	.85	.57
A516R	6"- 5/16x6	Round Blade	.90	.60
A516R	8"- 5/16x8	Round Blade	.95	.64
A516R	10"- 5/16x10	Round	1.00	.66
A516S	6"- 5/16x6	Square	.95	.64
A516S	8"- 5/16x8	Square	1.00	.66
A516S	10"- 5/16x10	Square	1.10	.72



AMBERYL PHILLIPS—HIGH CARBON STEEL BLADE

The increasing use of Phillips self-centering screws in radio assembly make a full kit of Vaco Phillips screw drivers a necessity.



Stock No.	Size Blade (")	Point No.	Overall Length (")	List Each	Dealer Each
P10	5/32x8	1	5 1/2	\$.60	\$.36
P20	1/4x4 1/2	2	8 1/2	.80	.48
P30	5/16x6	3	10	1.00	.60
P40	3/8x8	4	12	1.20	.72
P50	1/2x1 1/2 Stub	2	3	.70	.42
P60	5/32x1 1/4 Stub	1	3	.65	.39
P111	5/32x1 1/4 Pocket Clip	1	2 1/2	.50	.30
P122	5/32x3/4 Pocket Clip	1	5 1/2	.55	.33

AMBERYL SPIN - HEX NUT DRIVERS

Deep drilled shafts—Thin wall Hex. Flat faced for close work.



Stock No.	Size (")	Overall Length (")	List Each	Dealer Each
S6	3/16	6	\$.65	\$.39
S8	1/4	6	.65	.39
S9	5/32	6	.65	.39
S10	5/16	6	.65	.39
S11	11/32	6	.65	.39
S12	3/8	6	.65	.39
S14	7/16	6	.65	.39
S16	1/2	6	.65	.39

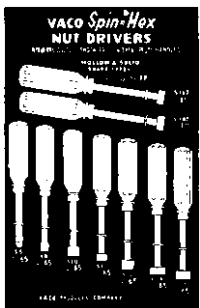
VOLUME CONTROL SIZES—Hollow Shaft Throughout

S160	1/2	7	1.00	.60
S180	9/16	7	1.10	.60

FOR 3/32" SQUARE SET SCREWS				
S3	3/32 Square	6	.65	.39

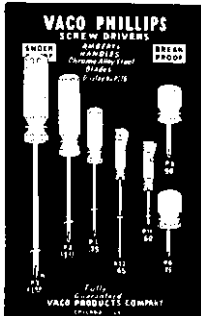
VACO CARDED DISPLAY UNITS

No. S90
**SPIN-HEX NUT DRIVER
DISPLAY UNIT**



Contains One Each
SPIN-HEX
3/16", 1/4", 5/16", 11/32",
3/8", 7/16", 1/2"
and one each Volume Control
7/16" and 1/2"
Heavy easel back board keeps
each size in its place.
List each\$7.15
Dealer each 4.29

No. PC260
**PHILLIPS CARBON
STEEL DISPLAY UNIT**



Contains One Each
PHILLIPS High Carbon
Nos. P10, P20, P30, P50,
P60, P111, P122
Display these to your cus-
tomers. Also keep one unit
on your bench.
List each\$5.50
Dealer each 3.30

No. A1116
**EXTRA THIN BLADE
POCKET CLIP
SCREW DRIVERS**



Contains One Dozen
Assorted Lengths
No. 116 Radio Pocket Clip
Screw Drivers. Blade Dia.
.0925. Bit Width .0825.
Extra long Amberyl Handle
chipped at top. very popular
and useful. Contains 4 each
2", 3" and 4" lengths on
display board.
List per unit of 12.....\$3.60
Dealer per unit of 12..... 2.16

No. A238
**1/8" SQUARE BLADE HEX
VACOLITE HANDLE,
POCKET CLIP SCREW DRIVER**



Contains One Dozen
2" square blade Shock and Break
Proof hexagon Vacolite handle with
pocket clip. A tough strong rust
proofed blade. A very popular driv-
er—low in price but high in qual-
ity.
List per card\$2.40
Dealer per card 1.20

No. A128
**1/8" ROUND BLADE
NARROW BIT
AMBERYL HANDLE
POCKET SCREW DRIVER**



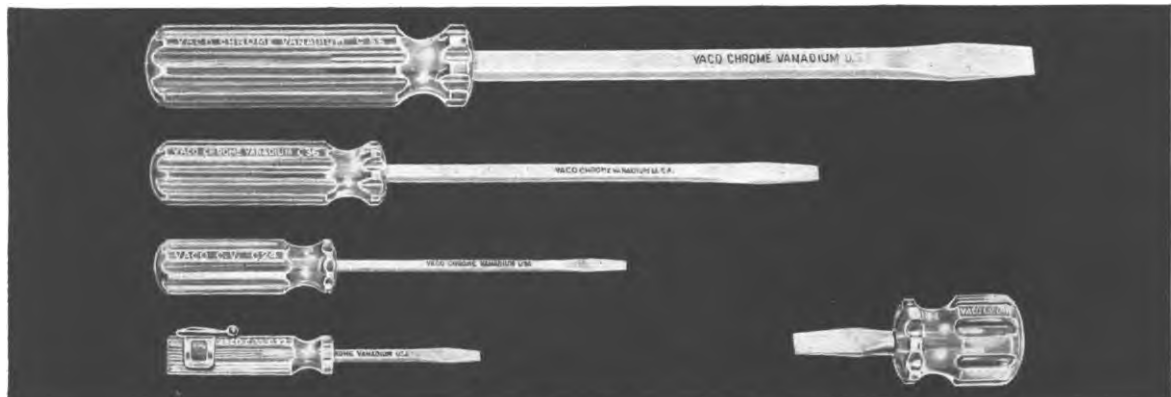
Contains One Dozen
Assorted Lengths
1/8" blade, narrow cabinet
point. Board holds 1 each:
2", 3" and 4" lengths. 1/2"
grooved handle. Shock and
Break Proof. Rust Proofed
Blades.
List per card\$3.00
Dealer per card 1.50

V A C O

AMBERYL SHOCK & BREAK PROOF HANDLE SCREW DRIVERS
DEEP GROOVE SURE GRIP HANDLES—RUST PROOFED BLADES—FULLY GUARANTEED

VACO HAND FORGED—CHROME VANADIUM STEEL SCREW DRIVERS

Large Size AMBERYL HANDLES, Long Tapered Hand Shaped Bits
 "The Finest Screw Driver Money Can Buy"



MADE WITH SQUARE BLADES ONLY

THIN BLADE RADIO STOCK SIZES					HEAVY DUTY LARGE SIZES				
Stock No.	Size of Blade (")		List each	Dealer each	Stock No.	Size of Blade (")		List each	Dealer each
C22	1/8x2	Pocket Clip	\$.50	\$.33	C54	5/16x1	Regular Style	\$1.15	\$.77
C23	1/8x3	Regular Style	.55	.37	C55	5/16x5	Regular Style	1.20	.80
C24	1/8x4	Regular Style	.60	.40	C56	5/16x6	Regular Style	1.30	.87
C26	1/8x6	Regular Style	.70	.47	C58	5/16x8	Regular Style	1.40	.94
C33	3/16x8	Regular Style	.75	.50	C510	5/16x10	Regular Style	1.15	.97
C34	3/16x1	Regular Style	.80	.53	C514	5/16x14	Regular Style	1.60	1.07
C35	3/16x5	Regular Style	.85	.56	C66	3/8x6	Regular Style	1.50	1.00
C36	3/16x6	Regular Style	.85	.56	C68	3/8x8	Regular Style	1.55	1.03
C38	3/16x8	Regular Style	.90	.60	C610	3/8x10	Regular Style	1.75	1.17
C41	1/4x1 1/4	Stubby	.70	.47	C614	3/8x14	Regular Style	2.30	1.53
C44	1/4x1	Regular Style	.90	.60					
C46	1/4x6	Regular Style	1.00	.67					
C48	1/4x8	Regular Style	1.05	.70					
C410	1/4x10	Regular Style	1.10	.73					

VACO PHILLIPS CHROME ALLOY SCREW DRIVERS

Cadmium Plated, Rust Proofed Blades

Built for Long Hard Service—Highest Quality—Longest Life



Stock No.	Size and Length (")	Point No.	Overall Length	Takes Screws Numbers	List each	Dealer each
P1	5/32x3	1	5 1/4"	4 and smaller	\$.75	\$.45
P2	3/8x1 1/4	2		5 to 9	1.25	.75
P3	5/16x6	3		10 to 16	1.40	.84
P4	3/8x8	4		18 and larger	1.65	.99
P5	1/2x1 1/4 Stub	2		5 to 9	.90	.54
P6	5/32x1 1/4 Stub	1		4 and smaller	.75	.45
C11	5/32x1 1/4 Pocket Clip			4 and smaller	.60	.36
P12	5/32x3 1/4 Pocket Clip	1		4 and smaller	.65	.39

VACO PHILLIPS OFFSET CHROME ALLOY SCREW DRIVER
 Combination No. 1 Point One End
 No. 2 Point Other End



No. P120 Offset Phillips should be in every tool kit. Very handy for those hard to get at places. Length 3 1/4". Bit length 1". No. 1 and No. 2 points.

No. P23—No. 2 and No. 3 points.

List. Each.....\$0.50
 Dealer. Each......36

No. C80 CHROME VANADIUM RADIO SIZES



This attractive display unit contains 8 popular radio sizes — one each, C45, C38, C36, C34, C24, C26, C22, C11.
 List. Each.....\$6.50
 Dealer. Each..... 3.90

No. PC16 CHROME ALLOY PHILIPS DISPLAY UNIT



Contains one each P1, P2, P3, P5, P6, P11, P12. Chrome alloy Amberyl Phillips. Handy for both bench use and display.
 List. Each.....\$6.75
 Dealer. Each..... 4.05

No. AN12 NEON ELECTRICAL TESTING SCREW DRIVER DISPLAY



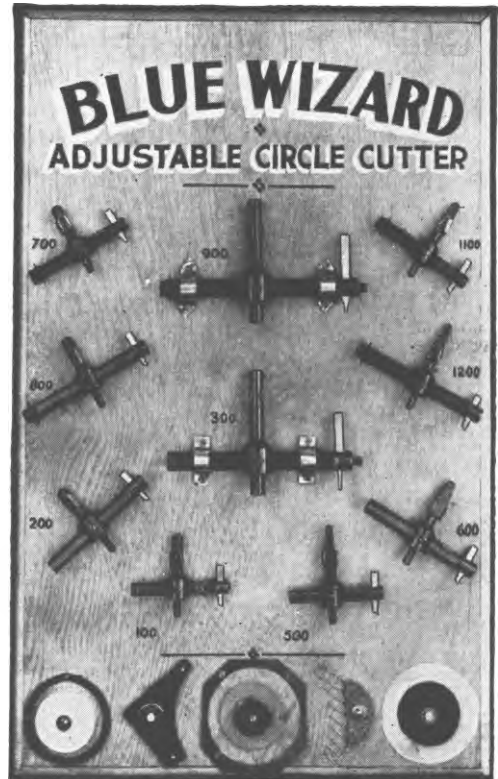
Contains — One dozen No. AN1. 3/16 x 3/4" neon tube testers. Handles colored red in center, shows a bright red flash when leaks are encountered.
 List. per Card.\$10.80
 Dealer. per Card..... 6.48

Blue Wizard Adjustable Circle Cutters

Rugged improved circle cutters for making holes from 1" to 10" in diameter. Designed to cut accurately and quickly any materials listed below. May be used in slow-speed drill press or ordinary hand-brace. A practical tool priced so low that no shop can afford to be without it. Ideal for all kinds of radio construction work. All cutting bits are made of special high speed steel and are easily replaced with new ones or removed for sharpening.

THE SILENT SALESMAN

A Display Board for the Dealer's store consisting of 10 different sizes and types of circle cutters with samples of materials that the tool is capable of cutting, will greatly stimulate sales in the store. See photograph of Display Board to the right.



PRICES—ROUND SHANK

	List Price	Net Price
No. 100—"Single Blade" Circle Cutter.....	\$1.70	\$1.28
No. 700—"Dual Blade" Circle Cutter.....	2.80	2.10
Cuts 1" to 6½" Circle—⅜" Round Shank		

"STANDARD" MODELS

No. 200—"Single Blade" Circle Cutter.....	\$2.50	\$1.88
No. 800—"Dual Blade" Circle Cutter.....	3.30	2.48
Cuts 1" to 6½" Circle—⅜" Round Shank		

"JUMBO" MODELS (HEAVY DUTY)

No. 300—"Single Blade" Circle Cutter.....	\$4.20	\$3.15
No. 900—"Dual Blade" Circle Cutter.....	5.80	4.35
Cuts 1¼" to 10½" Circle—½" Round Shank		

SQUARE TAPERED SHANK

"JUNIOR" MODEL

No. 500—"Single Blade" Circle Cutter.....	\$2.50	\$1.88
No. 1100—"Dual Blade" Circle Cutter.....	3.30	2.48
Cuts 1" to 5" Circle		

"STANDARD" MODEL

No. 600—"Single Blade" Circle Cutter.....	\$3.30	\$2.48
No. 1200—"Dual Blade" Circle Cutter.....	4.20	3.15
Cuts 1" to 6½" Circle		

No. (10) "Blue Wizard" Display Board complete with 10 Tools as shown.....\$35.60 List \$20.83 Net

F.O.B. Huntington Park, Calif.

Cut SHARP and CLEAN
CIRCLES — DISCS — WASHERS
GASKETS

in

- Wood or Cork
- Bakelite or Fibre
- Leather or Rubber
- Stainless Steel
- Thin Shim Material
- Galvanized Sheet Iron
- Cold Roll Steel



CHICAGO



Here is just the combination solder and flux for delicate electrical and radio work. Used and recommended by the largest manufacturers of telephone, electrical and radio equipment. Quality alloy of tin and lead solder with pure rosin flux inside it, makes absolutely non-corrosive joints. No other flux is needed nor recommended. Only heat is necessary.



Custom set builders, servicemen and radio fans must have Rosin-Core Solder. This small package of Rosin-Core Solder catches their eye and the sale is easily made. Packed same as Repair-All. Stock it—display it, you'll sell it.

Gardiner Rosin-Core Solder melts quickly, flows freely and makes high tensile strength bonds. You are money ahead when you buy Gardiner Solder—it costs less! Put up on 1 - 5 - 20 lb. spools.

ENGLISH WIRE GAUGES

Gauge No.	Decimal Inch Equivalent	Approximate Fractional Inch Equivalent	Approximate Millimeter Equivalent
1.....	.300"	19/64"	7.62 mm
2.....	.284"	9/32"	7.21 mm
3.....	.259"	17/64"	6.58 mm
4.....	.238"	15/64"	6.05 mm
5.....	.220"	7/32"	5.59 mm
6.....	.203"	13/64"	5.16 mm
7.....	.180"	3/16"	4.57 mm
8.....	.165"	11/64"	4.19 mm
9.....	.148"	5/32"	3.76 mm
10.....	.134"	9/64"	3.40 mm
11.....	.120"	1/8"	3.05 mm
12.....	.109"	7/64"	2.77 mm
13.....	.095"	3/32"	2.41 mm
14.....	.083"	21/256"	2.11 mm
15.....	.072"	9/128"	1.83 mm
16.....	.065"	1/16"	1.65 mm
17.....	.058"	7/128"	1.47 mm
18.....	.049"	3/64"	1.24 mm
19.....	.042"	5/128"	1.07 mm
20.....	.035"	9/256"	.89 mm
21.....	.032"	1/32"	.81 mm

MELTING POINTS of METALS and SOLDERS

Metals	Degrees Fahrenheit	Degrees Centigrade
Aluminum	1216	658
Antimony	1166	630
Bismuth	518	270
Copper	1981	1083
Gold	1945	1063
Lead	621	327
Silver	1762	961
Tin	450	232
Zinc	786	419

ALLOYS OF SOLDER

Melting Points only approximate
Tin Content mentioned first

Alloys	Degrees Fahrenheit	Degrees Centigrade
25/75	500	260
30/70	480	249
35/65	470	243
40/60	460	238
45/55	440	227
50/50	415	213
55/45	390	199
60/40	370	188
63/37	358	181

Solid Wire Solders are supplied in gauges from No. 1 to No. 21 inclusive.

Acid-Core, Rosin-Core, and Special Core Solders are supplied in gauges from No. 6 to No. 19 inclusive.

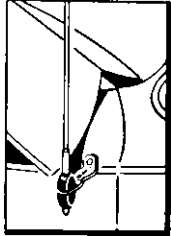
Flux-Filled Solders are made in core sizes to contain from 1% to 5% Flux, the percentage based on weight. Standard core size contains from 2% to 3% Flux.



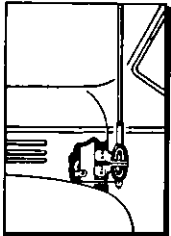
AUTO RADIO AERIALS

U.S. Patent No. 2217188

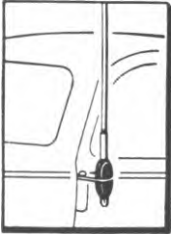
NEW 1941 "SOUND-PROOF" AUTO RADIO AERIALS



"Alligator"



"Under Hood"



"Hinge"

... FOR ...
UNDER-HOOD
 and
HINGE MOUNT
 INCLUDING
"ALLIGATORS"

EACH AERIAL KIT CONTAINS . . .
Three Types of Clamps

NO DRILLING!
3-SECTION DELUXE
 30" Closed—69" Open

	List Price
M-3J Single Mount—Rubberized Lead-in	\$1.85
M-3L Shielded Loom Cable, Caps and Plug	2.10

3-SECTION DELUXE
 38" Closed—93" Open

M-33J Rubberized Lead-in	2.25
M-33L Shielded Loom Cable, Caps and Plug	2.50

Complete with Self-Tapping Metal Screws

2-SECTION DELUXE
 29" Closed—53" Open

M-22J Single Mount—Rubberized Lead-in	1.35
M-22S Shielded Cable and Plug	1.60
M-22L Shielded Loom Cable, Caps and Plug	1.80

MOTOROLA TYPE PLUGS OPTIONAL ON "L" CABLES

Average Weight, 1 Lb.

"COWLS"
 — Dual Mount —
3-SECTION DELUXE
 27" Closed—66" Extended

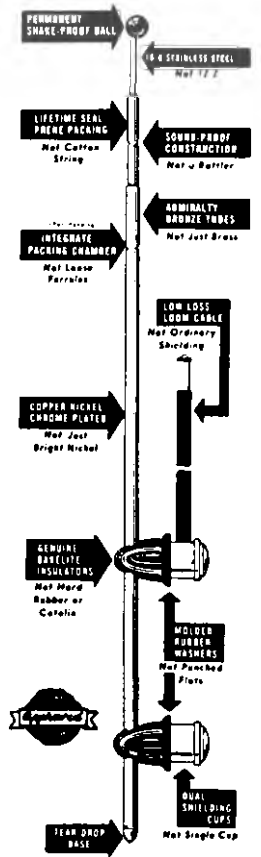
	List Price
C-3J With Rubberized Lead-in	\$1.50
C-3S With Shielded Lead and Plug	1.60
C-3L With Shielded Loom Cable, Cap and Plug	1.85
C-33L Extra Length 98" Extended	2.25

2-SECTION STANDARD
 25" Closed—46" Extended

C-2J With Rubberized Lead-in	1.10
C-2S With Shielded Cable and Plug	1.35

2-SECTION HEAVY DUTY
 26" Closed—50" Extended

C-22J With Rubberized Lead-in	1.15
C-22S With Shielded Cable and Plug	1.40
C-22L With Shielded Loom Cable, Cap and Plug	1.65



The 20°
"SWING-ANGLE"

- FOR ALL COWLS WITH ANY CONTOUR
- SINGLE MOUNT DOUBLE BOLT
- FOOL-PROOF RIGID INSTALLATION
- COMPLETELY ASSEMBLED
- INDIVIDUALLY BOXED
- TRIPLE CHROME PLATED

3-SECTION STANDARD
 27" Closed—66" Extended

	List Price
S-3L With 3" Loom Cable	\$2.25

4-SECTION DELUXE
 With 4 Ft. Loom Lead-in Cable

S-43L "Stump" 64"	\$3.25
S-4L "Big Boy" 96"	3.95

MOTOROLA TYPE PLUGS OPTIONAL
 Average Weight 1 1/2 lbs.

THE "3 ACES"
FOUR SECTION—HEAVY DUTY
 With Stainless Steel Dress-ups

THE "STUMP"
 Closed 22"—Extended 64"

	List Price
C-43L Loom Lead-in	\$2.50
C-43J Plain Lead-in	2.10

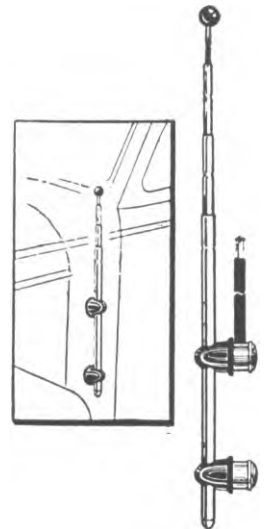
THE "BIG BOY"
 Closed 31"—Extended 96"

C-4L Loom Lead-in	\$2.57
C-4J Plain Lead-in	2.35

THE "POLICE"
 Closed 36"—Extended 114"

C-44L Loom Lead-in	\$3.50
C-44J Plain Lead-in	3.10

MOTOROLA TYPE PLUGS OPTIONAL
 Average Weight 1 1/4 lbs.



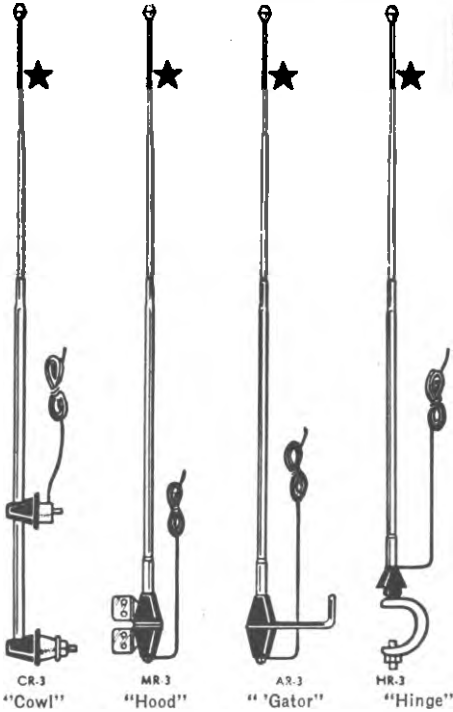


SNYDER

PHILADELPHIA.

AUTO RADIO AERIALS AND ACCESSORIES

4-STAR ATTRACTIONS



- 50 inch Extended ● Brass and Stainless Steel ● Triple Chrome plated ● Ceramic Insulators ● Individually Boxed ●

List Price \$1.00 each

Average Weight 1 lb.

CONCEALED HOOD COWL "DUAL MOUNT" For Greater Rigidity "W" MODELS

3-SECTION DELUXE

- | | |
|---|------------|
| | List Price |
| W-3J Double Mount—Rubberized Lead-in | \$1.50 |
| W-3L Shielded Loom Cable, Caps and Plug | 1.95 |

3-SECTION (Extra Length)

- | | |
|--|--------|
| W-33J Rubberized Lead-in | \$1.90 |
| W-33L Shielded Loom Cable, Caps and Plug | 2.35 |

2-SECTION LEADER

- | | |
|--|--------|
| W-2J Single Mount—Rubberized Lead-in | \$1.15 |
| W-2S Shielded Cable and Plug | 1.40 |

2-SECTION DELUXE

- | | |
|--|--------|
| W-22J Double Mount—Rubberized Lead-in | \$1.25 |
| W-22S Shielded Cable and Plug | 1.50 |
| W-22L Shielded Loom Cable, Caps and Plug | 1.70 |

MOTOROLA TYPE PLUGS OPTIONAL

Average Weight 1 lb.

HINGES

With Straight or "C" Type Clamps

2-SECTION

28" Closed
50" Extended

- | | |
|--------------------------------|------------|
| | List Price |
| H-2J With Standard clamp | \$0.85 |
| HK-2J With C-Type clamp | 1.10 |

2-SECTION HEAVY DUTY

32" Closed
52" Extended

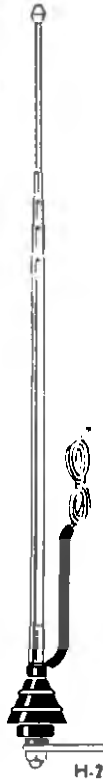
- | | |
|----------------------------------|--------|
| H-22J Standard clamp | \$1.10 |
| HK-22J C-Type chrome clamp | 1.45 |

3-SECTION DELUXE

32" Closed
72" Extended

- | | |
|--------------------------------|--------|
| H-3J With standard clamp | \$1.50 |
| HK-3J With C-Type clamp | 1.85 |

Average Wt. 1 lb.

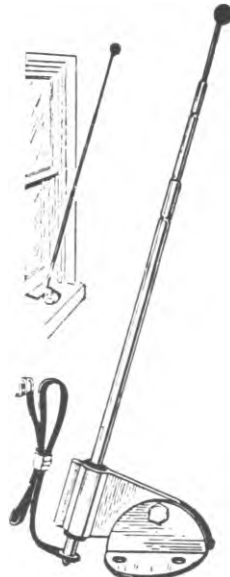


H-22

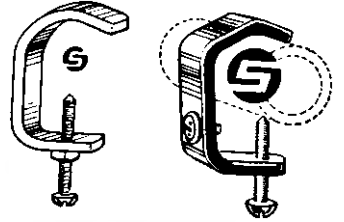
WINDOW POLE HOUSE AERIALS

Swivel Types

- | | | |
|--|--|------------|
| | | List Price |
| No. 107 DeLuxe chrome plated, 3 sections, extends to 93" | | \$2.15 |
| No. 106 Leader 2-section, extends to 75". Cadmium plated | | 1.35 |



C-Type Ground Clamps



- HEAVY GAUGE STEEL
- CADMIUM PLATED
- EXTRA WASHER-SCREW
- COMPLETELY ASSEMBLED

- | | |
|--|------------|
| | List Price |
| No. 97 Leader 1 Bolt... (Wt. 9 1/2 lbs.) | \$.04 |
| No. 98 Standard | .05 |
| No. 99 Extra Heavy... (Wt. 10 1/2 lbs.) | .06 |

Packed 100 Clamps to a Carton

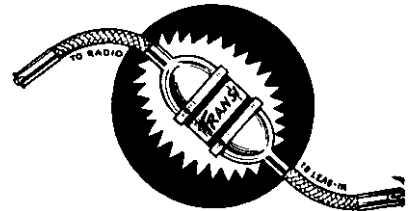


- CONTAINED IN GENUINE BAKELITE CASE
- ELIMINATES ALL OUTSIDE WIRE
- REDUCES STATIC AND OTHER LOCAL INTERFERENCE
- ADAPTABLE AS MULTIPLE AERIAL ATTACHMENT



- | | | |
|-----------------------|--|------------|
| | | List Price |
| No. 44 TennaDex | | \$0.50 |
| No. 47 Lyons | | .50 |

TRANSIFIER Auto-Radio Booster



- QUICKLY INSTALLED WITHOUT TOOLS
 - BOOSTS RADIO RECEPTION
 - DECREASES "PICK-UP" NOISES
 - MORE STATIONS
 - UNIVERSAL FOR ALL RECEIVERS AND AERIALS
 - COMPLETELY SHIELDED
 - INDIVIDUALLY BOXED
- BT-2 Transified Unit (Wt. 2 Oz.) List \$0.65
MOTOROLA TYPE PLUG OPTIONAL

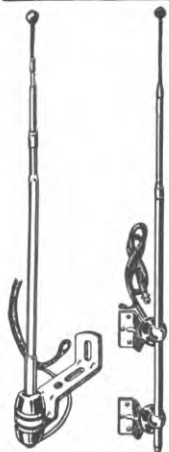
Lead-In Cable Adaptor



- For Standard Plug-in type cables to fit into Motorola Receivers.
- | | |
|------------------|-------------|
| A-5 Adaptor..... | List \$0.19 |
|------------------|-------------|

ONLY WARD HAS ALL THESE.

America's Finest Antennae



TRI-MOUNT . . . 3 Purpose Antennae

These models are designed to accommodate three types of installations: UNDERHOOD ALLIGATOR, and HINGE. Necessary installation brackets are supplied at NO EXTRA COST. One main feature of the hinge bracket is a knock-out insert, permitting neater installations with different sized hinge pins. Each aerial is completely assembled and is supplied with type L-15 lead (three-way) and "UNI-PLUG." Stock only one model for three types of installations.

Model T2-48. Two Section (48") -----\$1.95

Model T3-68. Three Section (68") -----\$2.90

SPECIAL BRACKETS

1940 Oldsmobile Alligator Model TBO -----\$.15

1940 Ford and Mercury Underhood

Model TBF -----\$.15

SPECIAL UNDERHOOD

The Model U3-93 is a special two-stanchion type underhood. Comes equipped and completely assembled with type L-15 lead.

Model U3-93. Three Section (93") -----\$3.65



FLEX - ANGLE Fits All Cowl Contours

The "Flex-Angle" model is of the two bolt, single mount, three section type and is designed to fit all types of cowl contours. By means of an adjusting nut at the base, the antenna can be adjusted through a range of 16° so that a vertical antenna can be had with any cowl design. The "Flex-Angle" is completely assembled, ready for installation, with type L-13 High-Q lead and "UNI-PLUG."

Model E3-68. 3 Sec. (68") -----\$3.35

UNI-PLUG SILVER TO SILVER CONTACT

FITS ALL
AUTO RADIOS
STANDARD EQUIPMENT
ON ALL LEADS

TRI-MOUNT



Mounts
3 Ways

NO EXTRA COST

SIMPLE CONVERSION



HIGH "Q"

HYDRO-SEALED
LEADS



Try
the Smoke Test

New "EZ in"



POSITIVE CONNECTOR

Pat ANTI-
RATTLE



Non-
Metal
CANNOT MAR
PLATING

SIDE COWL AERIALS

BAKELITE STANCHION

These models are similar to those (right) except stanchions are bakelite. The new EZ-IN plug construction and complete lower stanchion shielding is also incorporated. Hydro-sealed High-Q lead L-13 and "UNI-PLUG" are standard equipment. An extra pair of stanchions supplied at NO EXTRA COST for conversion. Ward side cowl aerials require only one size drill for easy installation.

Model B3-66. 3 Sec. (66") ---\$2.75

Model B3-93. 3 Sec. (93") ---\$3.25

CERAMIC STANCHION

Feature the low-loss Ceramic Stanchions. New EZ-IN plug construction. Illustrations show the simplicity of conversion for TORPEDO and CHRYSLER bodies. Necessary conversion parts are supplied at NO EXTRA COST. Note illustrations of construction of new EZ-IN plug. Completely shielded lower stanchion. Smoke and water test on new Hydro-sealed cables now supplied as standard with Ward Side Cowls. Completely assembled, type L-13 lead, and equipped with "UNI-PLUG" as standard equipment which fits all Motorola and bayonet connectors.

Model 5XXL. Three Section (66") -----\$2.95

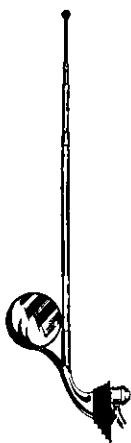
Model 8XL. Three Section (93") -----\$3.45

Model 151L. Four Section (100") -----\$3.95

COMBO - TENNA- MIRROR

This antenna model features dual purpose, radio antenna, and a 4" rear view mirror. Its single mounting is of modernistic design. Antenna comes completely assembled and equipped with 36" low-loss cotton covered lead type L-12 and "UNI-PLUG".

Model D3-70. 3 Section (70") -----\$4.95



CONCEALED COWL ANTENNAE

These units are of the manually operated type. They incorporate new improvements in construction and moisture sealing at the cowl, feature complete shielding — quick installation. Because of its compact neatness, adds to the appearance of even the finest automobile. Completely assembled with 36" cotton covered lead type L-13 and "UNI-PLUG."

Model 02-42. 2 Sec. (42") -----\$3.75

Model 03-62. 3 Sec. (62") -----\$4.25



HOME RECEPTION ANTENNAE

Featuring a newly designed mounting bracket which facilitates antenna mounting in most any location. The aerial may be mounted on the roof, side of the house, or on a soil pipe. 40 ft. of lead-in wire, 9 ft. of ground wire and ground clamp included.

Model C5-165. Five Section (16½ ft. long) With soil pipe and universal mounting -----\$4.95

Model C5-165S. Five Section (16½ ft. long) for soil pipe mounting only ---\$4.45



WINDOW SILL ANTENNA

For those difficult antenna installations where space is limited and a maximum signal strength is still desired, Ward has designed a special Window Sill type of antenna. Three section construction, 94" long finished in a durable chrome plating. Low-loss ceramic type insulators. Complete with mounting bracket and window strap lead.

Model C3-94. 3 Sec. (94" long) -----\$2.50



REAR . VIEW MIRROR

Mounts on any two or three section side cowl antenna. The mirror is 3" in diameter, finished in attractive chrome, is supplied with bushings to fit various diameter tubes. Model 148 ---\$1.50



WARD POLICE AERIALS

Standard equipment with leading police departments. Known for their efficiency, sturdiness, and dependability. An antenna model or tube assembly for every type of police installation: trunk, side cowl, and bumper.

TRUNK

- F3-101. Three Section (101" long), brass nickel finish ----- \$11.95
 F2-96. Two Section (96" long), steel, black nickel finish ----- \$15.95

SIDE COWL

- G3-101. Three Section (101" long), brass nickel finish ----- \$ 6.50
 G2-96. Two Section (96" long), steel, black nickel finish ----- \$10.50
 G1-78. One Section (78" long), tapered steel rod, black nickel finish ----- \$ 8.25

BUMPER

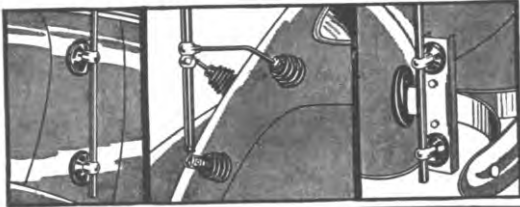
- H3-101. Three Section (101" long), brass, black nickel finish ----- \$ 7.00
 H2-96. Two Section (96" long), steel, black nickel finish ----- \$11.50
 H1-84. One Section (84" long), tapered steel rod, black nickel finish ----- \$ 9.95

TUBE ASSEMBLIES AND RODS (Left)

- 1-40. One Section (40" long), tapered steel rod, chromium finish ----- \$ 1.95
 1-78. One Section (78" long), tapered steel rod, black nickel finish ----- \$ 6.95
 1-84. One Section (84" long), tapered steel rod, black nickel finish ----- \$ 7.95
 2-96. Two Section (96" long), steel, black nickel finish ----- \$ 8.50
 3-101. Three Section (101" long), brass, black nickel finish ----- \$ 5.50
 Leads not furnished with Police models. All multiple sections equipped with locking nuts.



Types of Rod and Tube Assemblies



SPECIAL APPLICATIONS

MOTORCYCLE TYPE

Designed to withstand the hardest kind of service. New outstanding "safety-ring tip" feature which guards against accidental eye or face injuries. 33" chromium plated tapered steel rod. Bracket for mud-guard or side-car supplied.

- Model K1-33 (33" long) ----- \$ 2.95

TRACTOR AERIALS

Two popular numbers, that have proved their merits. Side cowl type of bakelite stanchions and insulators, to go through the cab wall, type L-12 antenna lead.

- Model N3-66. 3 Sec. (66") ----- \$ 4.25
 Model N3-93. 3 Sec. (93") ----- \$ 4.95

OTHER APPLICATIONS

Considerable research work has been done on Marine and Aviation antenna. In the majority of applications, custom building was almost necessary. In view of this fact The Ward Products Corp. invites you to submit your antenna problems. Ward Engineers will gladly cooperate in their solution.



DEALER DISPLAY

An attractive Display designed for "Easy Selling." Shows actual conversions. Mounts one each. Model E3-68; T2-48; B3-66; 151L. You pay only for Aerials.

Model WA78 ----- \$12.00



WARD AMATEUR ANTENNAE

BEAM TYPES

For 5 meter operation. Two element (4 rod assemblies), complete with flange and cypress cross arm, insulators, positive locking nuts. Adjustable two-section type, brass, chrome plated.

- Model DXB-42 Complete ----- \$20.00
 For 10 meter operation. Three section aluminum tubing, 7/8" 5/8" 1/2". Adjustable length for tuning—pos. lock. nut. 4 or 6 assemblies req. for two or three element beam. Per assembly, including insulators and mounting clamps, less supports.

- Model DXB-85 ----- \$ 5.50

The same specifications as "85" except the length for 20 meter band operation. 4 or 6 assemblies req. for two or three element beams respectively. Per assembly, less supports.

- Model DXB-175 ----- \$11.50

VERTICAL TYPES

5 meter operation. Three section adjustable assembly of 7/8" 5/8" 1/2" aluminum tubing, pos. lock. nut. Complete with insulators and mounting clamps.

- Model DXV-85 ----- \$ 6.50

10 meter antenna. Specifications same as for "85" except for 20 meter band operation. Complete with insulators, mounting clamps.

- Model DXV-175 ----- \$ 7.50

FREQUENCY MODULATION & TELEVISION ANTENNAE

Dipole unit consisting of two chrome plated brass rod assemblies. Pos. lock. nut for adjustment. Complete with insulators, a joined vertical support of treated cypress and 75 ft. of twisted transmission line.

- Model FM-75 ----- \$15.50

Two-element beam antenna. 4 chrome plated brass rod assemblies, adjustment pos. lock. nut for television or frequency modulation. Complete with insulators, horizontal spacing bar, vertical support, 75 ft. of low-loss twisted pair transmission line.

- Model FMB-75 ----- \$25.00

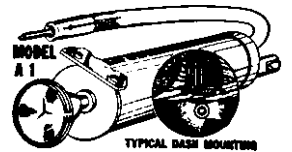


Vertical (left)

Beam (right)

SIGNAL BOOSTERS

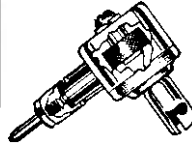
Variable Z-Match unit an ideal efficient accessory for any car installation. It is tuneable over the entire broadcast range and makes possible a signal gain of from 5 to 12 decibels when the Z-Match unit is connected in series with the antenna lead. Model A-1 ----- \$ 1.95



FIXED Z-MATCH

We recommend the Model A-8 Iron Core unit for a signal gain of from 6 to 10 decibels and better signal separation in the crowded portion of the broadcast band. Supplied with proper adapters to connect into any combination of antenna lead and radio receiver.

- Model A-8 ----- \$.75



HYDRO SEALED LEADS

- L12. 36" Shield can to "Uni-plug," cot. cov. Low-loss, ----- \$.65

- L13. 36" Female Bayonet to "Uni-plug," cot. cov., low-loss. (Side Cowl Stand. Equip.) ----- \$.60

- L14. Same as L13 except 48" long ----- \$.70

- L15. 36" Terminal lug to "Uni-plug," Tri-Mount ----- \$.60

- L16. Same as L15 except 48" long ----- \$.70

- L17. 72" long Terminal lug to "Uni-plug," for under car, cot. cov. ----- \$.85

- L18. Same as L17 except 13 ft. long ----- \$ 1.50

- L10. 25" Extension, Female Bayonet to "Uni-plug," cot. cov. ----- \$.45

- L11. 25" Extension, Pin plug to "Uni-plug," cot. cov. ----- \$.45

- L17. 72" long Terminal lug to "Uni-plug," for under car, cot. cov. ----- \$.85

- L18. Same as L17 except 13 ft. long ----- \$ 1.50

- L10. 25" Extension, Female Bayonet to "Uni-plug," cot. cov. ----- \$.45

- L11. 25" Extension, Pin plug to "Uni-plug," cot. cov. ----- \$.45

ADAPTERS

Pin plug for replacement.

- A2 ----- \$.08

"Uni-plug," female bayonet to pin plug.

- A3 ----- \$.15

Air core booster.

- A4 ----- \$.25

Female pin to male bayonet.

- A6 ----- \$.15

Y junction box, two female, one male bayonet.

- A7 ----- \$.35

1/2" Snap button.

- A9 ----- \$.10

3/8" Snap button, chrome fin.

- A10 ----- \$.10



RADIART VIBRATORS

Guaranteed EXACT DUPLICATE 1 YEAR



Guaranteed 1 YEAR

\$25 WORTH OF INFORMATION

for only 25¢ RADIART VIBRATOR MANUAL

NEW 1940-41 EDITION

is the authoritative reference book on Auto Radio Vibrators. 128 pages packed with helpful and profitable information for servicemen and dealers.



COMPLETE PRICE LIST — RADIART VIBRATORS

CONSULT RADIART MANUAL FOR DIMENSIONS AND COMPLETE TECHNICAL DATA

No.	Price	No.	Price	No.	Price	No.	Price	No.	Price	No.	Price
2819	\$3.45	3318	\$7.50	3786	\$3.95	4257-32	\$6.50	4609	\$7.50	5327P	\$3.00
2867	3.45	3319	5.95	3788	4.95	4260	2.95	4611	5.50	5331	2.95
3200	3.45	3320	2.50	3815	3.95	4308	3.95	4613	5.50	5333	2.95
3223	2.95	3356	3.95	3848	5.95	4306-12	3.95	4614	5.50	5334	2.95
3225	4.45	3375	3.95	3850	5.95	4314	4.95	5300	2.95	5335	2.95
3226	3.95	3398	4.45	3983	5.50	4319	3.95	5301	2.95	5338	2.95
3227	3.95	3417	3.95	3983-12	7.50	4319	5.95	5303	2.95	5340M	2.50
3263	2.95	3442	3.95	4253	4.50	4320	3.95	5304	3.95	5341M	2.50
3283	5.95	3443	6.50	4253-12	4.95	4332	3.95	5308	3.45	5342M	2.50
3290	5.95	3444	6.50	4253-32	4.95	4404	5.50	5312	3.95	5355	3.95
3308	5.95	3445	7.50	4254	4.95	4414	4.95	5313	2.95	5400	4.95
3310	8.00	3480	4.95	4254-12	5.50	4415	7.00	5320	2.50	5404	4.95
3311	9.00	3461	5.50	4254-32	5.50	4415-12	7.50	5321	2.95	5406	4.95
3312	10.00	3462	6.75	4255	3.50	4900	5.95	5322	2.95	5406-12	5.50
3313	3.95	3483	7.50	4255-12	6.50	4501	5.95	5323	2.50	5407	4.95
3314	8.00	3503	4.95	4255-32	6.50	4502	5.95	5324	3.95	5408	4.95
3315	5.50	3607	5.95	4255H	5.50	4504	5.50	5325P	2.50	5408-32	5.50
3316	10.00	3608	4.45	4257	5.50	4505	5.95	5326P	2.50	5410	4.95
3317	5.95	3651	5.45	4257-12	6.50	4607	7.25				

Model No.	Radiart No.	Price	Base	Model No.	Radiart No.	Price	Base	Model No.	Radiart No.	Price	Base	
ACRATONE				62-258				5400	4.95	AB	ARVIN	
32C, 33C	5410	\$4.95	O	62-280, -282, -284, -459, -552				5		5300	2.95	A
40	5301	2.95	A	-651, -652				6		5300	2.95	A
42D, 43D, 44D	5300	2.95	A	93BR667A, 93BR668A				7, 8A, 9A		5300	2.95	A
48, 51	2867	3.45		62-292, 62-294, 62-264, 62-280A				10A-1, 10A-2, 16		2867	3.45	
53D	5300	2.95	A	62-327, 62-331, 62-337				15		3263	2.95	Q
82, 92A, 94A	2867	3.45		62-334				17A, 17B, 17C		5300	2.95	A
167B, 167D, 168B, 168D	5410	4.95	O	62-345				18, 18FW		5300	2.95	A
250B, 259B, 260B	5300	2.95	A	62-363				19		5300	2.95	A
450	2867	3.45		62-364				20A, 20B		2867	3.45	
549	3308	5.95		62-369				22A		5300	2.95	A
KA, L7	5410	4.95	O	62-373, 62-374				25 (1st)		2867	3.45	
U8	5300	2.95	A	62-427, 62-437, 62-441				25 (2nd)		3263	2.95	Q
X6 Z, ZS	5410	4.95	O	62-463				27		5300	2.95	A
ADDISON				62-465				28, 28EM, 28OM		3300	2.95	A
531, 631	2867	3.45		62-553				29		5300	2.95	A
N855	4608	7.50	Z	62-554				30A, 30B		2867	3.45	
8 Tube Deluxe	5300	2.95	A	62-650				32		5300	2.95	A
ADMIRAL				62-653				33, 33DM		5300	2.95	A
5F, 6P, 6PU, 7A, 7J, 55, 66, 69, 77, 78, 89, 660				62-750, 62-751, 93BR564A				35		3263	2.95	Q
770, 780, 880, 950-6A, 955-6A	5300	2.95	A	93BR666A				37		5300	2.95	A
6A, 6D, 512-6D	5410	4.95	O	102				38		5300	2.95	A
965-6P, BA, 41, L7	5410	4.95	O	119, 165L				39, 42		5300	2.95	A
PH-16, U6	5300	2.95	A	199, 202				44C		5300	2.95	A
RPC, X8, X641, X741, Z4, Z5	5410	4.95	O	670				45 (1st & 2d)		3263	2.95	Q
F923 (L-Tetro)	3482	6.75	G	Auto Radio (O62)				61B, 62B		5409	4.95	K
AIRCASTE				32v. Household (Sync.)				517, 517B, 527B		5409	4.95	K
8	4718	3.95	S	AIR MASTER				518B		5409	4.95	K
330P	5410	4.95	O	319, 348, 49B, 50B				617, 617B, 627B		5409	4.95	K
603	3375	3.95		636, 638C, 638T, 688CE, 688TE				ASSOCIATED RADIO				
611, 660	4316	3.95	S	736A, 736T, 968CE, 968TE, 1198C				6 volt (4 prong)		5300	2.95	A
14-112S	5300	2.95	A	1198CT, 130BC, 130BT, 140BC, 140BT				32 volt (6 prong)		4314	4.95	T
14-129	5409	4.95	K	100XC, 100XT, 144XC, 144XT				ATWATER KENT				
BA41, L7, X6, Z4, Z5	5410	4.95	O	AIR MATE (See also B.O.P.)				125, 136		5300	2.95	A
U6	9300	2.95	A	65				132, 135Z, 138, 215Z		4314	4.95	T
8 Pr. Sync.	5411	4.95	V	544267				237Q, 237Z		5300	2.95	A
AIR-CHIEF (See also Firestone)				ALL-AMERICAN MOHAWK (See Wurlitzer)				265Z, 305Z		4314	4.95	T
66	3315	5.50		ALLIED RADIO CORP. (See Knight)				416, 446		5300	2.95	A
AIRLINE				AMRAD				42, 534		3308	5.95	
54	3882	5.50	AB	F 548				467Q		5300	2.95	A
60, 62	5300	2.95	A	ANDREA				556		5300	2.95	A
62-110, 62-108	3417	3.95	B	6 volt: 610, 611, 612, 613, (C6B)				568FF, 565Z		4314	4.95	T
62-130	3492	3.95		(32 volt) 610, 611, 612, 613, (C32B)				666, 776		3223	2.95	T
62-136, 62-138	3395	4.45	A	616, 617, 618, (C6B)				816, 826		3948	5.95	
62-199	3883	5.50	AB	626, 627, 628, (ERB)				AUBURN (See Cord also)				
62-202, 62-236, 62-242, 62-293	5300	2.95	A	ARCADIA (See Wall; Gardner)				ASA2		3317	5.95	
								ASA3		3789	4.95	AA
								980525-526		4611	8.50	P



RADIART VIBRATORS



Exact Duplicate
Guaranteed 1 YEAR

Model No.	Radiart No.	Price	Base	Model No.	Radiart No.	Price	Base	Model No.	Radiart No.	Price	Base
AUDIOLA (See also Fairbanks-Morse)				06W, 072A.....3318 7 50 N				46L1.....5300 2 95 A			
2337 (1st), 3356 (1st), 3357 (1st)	3444	6 50		072, 2721.....3443 6 50 G	49B, 49BT, 50B, 50BT.....5413 4 95 K						
2337 (2d), 3356 (2d), 3357 (2d)	2867	3 45		2722.....3318 7 50 N	538C, 63BT, 68BCE, 69BTE.....5113 4 95 K						
2357 (3d), 33A6.....4500 5 95				1425470, -471.....5400 4 95 AB	73BA, 73BT, 96BCE, 96BTE.....5413 4 95 K						
3358 (1st).....3492 6 75 Q				1433970 (C8).....5404 4 95 AH	100 XC, 100XT.....5301 2 95 A						
3358 (2d).....3608 4 45				7232502.....5426 4 95 P	489.....5411 4 95 V						
43C1B, 43T1B, 73C2B, 73C3B, 73T3B.....5411 4 95 V				7238350.....5334 2 95 F	500.....5321 2 95 A						
64.....5300 2 95 A				CAPTAIN (See L'Atro)							
67.....5411 4 95 V				CANADIAN RADIO CORP.							
74.....5303 2 95 A				613C, 513 DOR.....3317 5 95							
345, 348, 347.....3356 3 95 T				CAVALCADE							
8717, 9796.....5411 4 95 V				54, 64, 359.....5309 2 95 A							
86.....3356 3 95 T				3511.....5110 4 95 O							
C6.....5300 2 95 A				CAVALIER (Autophone)							
Audiola 32 Volt.....3608 4 45				M85T, M85S.....5300 2 95 A							
AUTOCRAT (Horn)				CHAMPION				CROSLLEY			
5.....2887 3 45				5.....5300 2 95 A				ASAZ.....3317 5 95			
22, 24.....5300 2 95 A				400.....2867 3 45 A				ASAZ, A155.....3789 4 95 AA			
505, 618, 5185, 530, 618, 6185.....5300 2 95 A				601, 600.....5300 2 95 A				A156.....5321 2 95 A			
6D32.....3225 4 45				601.....5300 2 95 A				A157.....5321 2 95 A			
AUTOMATIC				Power Supply.....2867 3 45				A158.....5300 2 95 A			
A1, A5, A6.....3227 3 95				CHEVROLET (See also B.O.P.)				A166.....4613 5 50 O			
J50, J60, J70, J80.....3227 3 95				364441.....3313 3 95				A167.....5321 2 95 A			
M10, M20, M30, M60, M87.....3227 3 95				800153.....3315 5 50				A168.....5300 2 95 A			
C-15, M70, M80.....3227 3 95				800240, -865, -968.....3315 5 50				A-169.....5300 2 95 A			
A800, AR600, Tom Thumb.....2887 3 45				801038.....4614 5 50 O				A177.....5321 2 95 A			
AUTOPHONE (See Cavalier)				801178.....3461 5 50 O				A196.....5300 2 95 A			
AUTO-ROLA				801177.....3461 5 50 O				A255.....4613 5 50 O			
J50, J60, J70, J80.....3227 3 95				C01928, -874.....3461 5 50 O				A256.....5300 2 95 A			
AUTOTONE				601206.....3461 5 50 O				A257.....5300 2 95 A			
6 Tube.....5411 4 95 V				601852, -814.....3451 5 50 O				A268.....5300 2 95 A			
BALDWIN				985100.....5321 2 95 A				A355.....4613 5 50 O			
54, 64.....5300 2 95 A				885200.....5321 2 95 A				A366.....3461 5 50 O			
BAKKEIT				885252, -283, -284, -285.....5303 2 95 F				F368.....5320 2 95 A			
GT 196 BA, 157BA, L7, X6, Z4, Z5.....5410 4 95 O				985283, -284.....5303 2 95 F				A455, A655.....4613 5 50 O			
UE, 54, 64.....5300 2 95 A				985285.....5303 2 95 F				B857A, B867A, B867M.....5303 2 95 A			
BELMONT				985300, -301.....4611 5 50 P				C159.....5303 2 95 A			
408.....5411 4 95 V				985400.....4613 5 50 O				4A1.....3789 4 95 AA			
415A, 415B, 459A, 504, 504A.....5411 4 95 V				985424, 985428.....5303 2 95 F				5A1.....3789 4 95 AA			
505A.....5307 2 95 A				985425.....5300 2 95 A				98, 99, 101, 102.....3317 5 95			
453A, 751A.....5307 2 95 A				985536.....5303 3 45 A				103.....3317 5 95			
565, 567A.....5300 2 95 A				985537.....6300 2 95 A				119, 159.....3507 5 95			
577.....5300 2 95 A				985538.....5300 2 95 A				156.....4404 5 50 AA			
577A, 577C.....5327 2 95 A				CHRYSLER (See also Philco (Chrysler))				167.....3317 5 95			
580.....4320 3 95 R				256C.....5437 4 95 AB				416, 435, 546.....5411 4 95 V			
811.....5411 4 95 V				C-170B.....5328P 2 50 A				557 (C-44185).....5427 4 95 V			
860.....3442 3 95				CLARION (T. C. A.)				625.....3789 4 95 AA			
860 (Complete Replacement Pack).....3314 8 00				31, 37.....5410 4 95 O				636.....5411 4 95 V			
881.....5300 2 95 A				60, 61, 70, 71, 80, 81, 110.....5320 2 95 A				645.....4431 5 50 AA			
888, 868A, 868B, 667, 688.....5300 2 95 A				AR100.....5300 2 95 A				4049.....4403 5 50 AA			
670.....4320 3 95 R				453.....5410 4 95 O				6615.....5411 4 95 V			
678A.....5307 2 95 A				362.....5411 4 95 V				DE FOREST CROSLLEY (Canada)			
677.....5300 2 95 A				646, 746, 846.....5300 2 95 A				51, 210, 510A, 513, 513A, -B, -C, -D.....3317 5 95			
680, 880A, 880B, 880C, 880.....4320 3 95 R				TC 15.....2867 3 45				6D471.....5429 4 95 K			
751A.....5307 2 95 A				TC 50.....3223 2 95 Q				DELCO (See also Chevrolet, Buick, Oldsmobile, Pontiac, United Motors)			
804.....5411 4 95 V				CLIMAX				6-3.....5303 2 95 F			
823-A.....5411 4 95 V				66.....5300 2 95 A				500, 630.....5321 2 95 A			
880A, 880B.....4320 3 95 R				AKE.....5411 4 95 V				625, 626, 627, 628, 629.....3481 5 50 O			
880C.....5300 2 95 A				CLINTON				631, 631A, 632, 633.....5321 2 95 A			
881.....5300 2 95 A				801, -2, -3, -4, -5, -6, -7, -8, -9.....5300 2 95 A				634.....4613 5 50 O			
1932 Models.....3444 6 50				8V5.....5409 4 95 K				635.....4613 5 50 O			
BENDIX				COLONIAL				3203, 3204.....4404 5 50 AA			
RP2A (Police).....5406 4 95 AD				106B.....3313 3 95				4049, 4090, 4051.....3607 5 95			
BLACKHAWK				134.....3230 5 95				R640, R641, R643, R644, R654.....5303 2 95 F			
6U, 64.....3417 3 95 B				150.....4502 5 95 L				R642.....5303 2 95 F			
B.O.P. (Buick-Olds-Pontiac)				164.....3442 3 95				R663.....5303 2 95 F			
382884, 544245, -246, -267, -228.....3461 5 50 O				164 B.....3223 2 95 T				R665, R666, R667, R669.....5303 2 95 F			
880383, -393.....3313 3 95				240.....3223 2 95 T				R872 (Police).....5333 2 95 F			
880441, -455, -459.....3315 5 50				349 (P).....4613 5 50 O				R878.....5333 2 95 F			
BOSCH				350.....5300 2 95 A				R895.....5334 2 95 F			
45A, 45C.....3283 6 95 K				355, 358, 361.....4613 5 50 O				R667, R668.....5334 2 95 F			
78.....3223 2 95 Q				COMMANDER (See L'Atro)				R6010, R6015.....5413 4 95 K			
79, 79C.....5321 2 95 A				CONSOLE (See L'Atro)				R6011, R6012.....5413 4 95 K			
140-A, 140-2, 140-3.....3283 5 95 K				CONSOLIDATED				DELUXE			
150-1.....3318 7 50 N				51.....3317 5 95				6 Pr. Non Sync.....4318 3 95 S			
150-2, 160.....3283 5 95 K				CONTINENTAL				6 Pr. Sync.....5411 4 95 V			
175.....3223 2 95 Q				AZ 593, L7, M651, M587.....5410 4 95 O				DETROLA			
189 HB, 109 HR (Police).....5406 4 95 AD				U6.....5300 2 95 A				6A, 6M, 6R.....2867 3 45			
337, 524A.....8321 2 95 A				X6, X641, X741, Z4, Z5, Z544.....5410 4 95 O				14-123, 180, 184.....5409 4 95 K			
536, 536B.....5321 2 95 A				6D, 7A.....5300 2 95 A				111, 112, 166.....5300 2 95 A			
600.....5409 4 95 K				6P, 6PU, 7J.....5410 4 95 O				144, 144B, 144C.....5409 4 95 K			
634, 634A.....8321 2 95 A				95.....5300 2 95 A				145B, 145C.....5409 4 95 K			
634A/2.....5321 2 95 A				865-8P.....5410 4 95 O				1100, 1100A.....3442 3 95			
636, 637.....5321 2 95 A				CORNELL-DUBILIER				1112.....5300 2 95 A			
735, 736, 737, 738.....5321 2 95 A				3 lead (non-sync).....2067 3 45				1934-1935 Models (leads).....2867 3 45			
818.....5409 4 95 K				CORONA				6753.....5400 4 95 AB			
839, 858.....5321 2 95 A				105, 122.....5300 2 95 A				DE WILD (See Pierce Airo)			
BUICK (See also B.O.P.)				212, 214.....5411 4 95 V				DOMINION ELECTROHOME			
544245, -246.....3461 5 50 O				CORONADO (Gemble-Skegmo)				Travel Reel.....5437 4 95 AB			
980393, -393.....3313 3 95				5C6, C6.....5437 4 95 AB				V7-32-61-P, V7-32-62-P.....3395 4 45 A			
980441, -455, -459.....3315 5 50				5Y.....3883 2 95 A				3 Leads.....2867 3 45			
990507, -508, -509, -525, -529.....4611 5 50				6C1.....5300 2 95 A				5G85-V.....5409 4 95 K			
980534, -535.....5426 4 95 P				6C7.....5438 4 95 AB				6V82-E, 6V92-D, 6V92-P, 6V92-S.....5409 4 95 K			
860620 (1314523).....5426 4 95 P				6J, 6JA, 6JB, 6K.....5400 4 95 AB				7V41-E.....3283 5 95 K			
12913444, -345.....3461 6 50 O				8L.....5390 2 95 A				7V51-P, 7V51-M, 7V52-E, 7V62-P, 7V83-S.....5411 4 95 V			
1304873, -874 (980588, -887).....5426 4 95 P				8U.....3417 3 95 B				8V41-E, 8V41-E-1, 8V51-M, 8V51-P.....5411 4 95 V			
1308221 (980598).....5426 4 95 P				15C6.....5437 4 95 AB							
CADILLAC-LaSALLE				2885, 6B.....3395 4 45 A							
5X.....5400 4 95 AB				26R1.....5309 2 95 A							
6C, 6J, 6KB.....5400 4 95 AB				2851.....3417 3 95 B							
8R.....3417 3 95 B				31B7, 34B7.....5413 4 95 K							
8S, 8U2.....3417 3 95 B											
8C8.....5404 4 95 AH											
88V1, 6Z.....3313 3 95											



RADIART AERIALS

ALWAYS A YEAR AHEAD

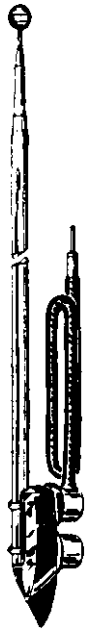


DE LUXE 2-BOLT MOUNT SINGLE INSULATOR

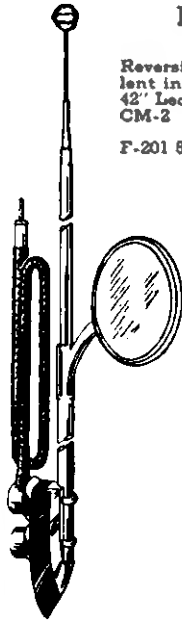
Standard Equipment on popular and luxury cars (U. S. Patent D118,627). Modern streamline beauty in a single (2-bolt) insulator featuring the rich harmony of black plastic and flashing chrome—42" lead included.

CD-31 \$3.95 3 section 24-63"
CD-101 4.95 4 section 24-80"

F-201 \$.15 5 deg. Rubber Wedge for Torpedo Bodies.



ILLUSTRATING
CD-101



ILLUSTRATING
CM-2

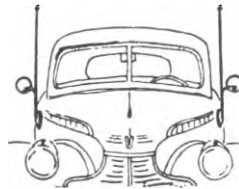
MIRROR COMBINATIONS TYPE CM-2

Reversible, for use either on left or right side of car. Excellent in matched pairs. Mirror is non-glare, smoked glass. 42" Lead included.

CM-2 Length 20-50" \$5.95

U. S. Patent D118,627

F-201 5 deg. Rubber Wedge for Torpedo Bodies..... \$.15

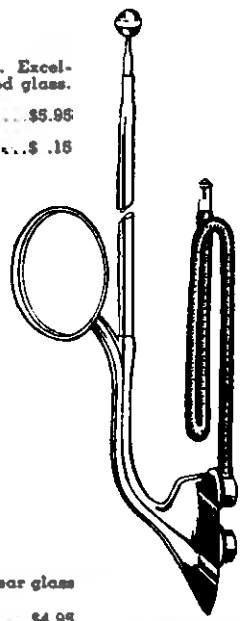


INSTALL TYPE CM-2 • IN MATCHED PAIRS

TYPE CM-1

Available for mounting on left side only. Clear glass mirror. 42" Lead included.

CM-1 Length 29-59" \$4.95



ILLUSTRATING
CM-1

Ro-TENNA—Radiart's Sensational Wind-up Aerial

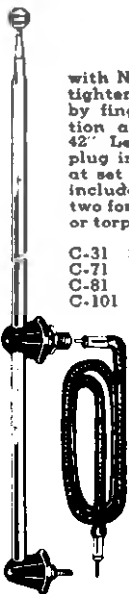
Fool-proof aerial operation from inside the car.

SEE COMPLETE DESCRIPTION ON OTHER SIDE

STANDARD 2-INSULATOR

with New, Easy Plug-in Connector tightened anywhere along the rod by fingers only, making installation a quick, easy one-man job. 42" Lead included is reversible—plug in straight end or angle end at set or aerial. Three insulators included, 1 long, 2 short. Use any two for installation on straight side or torpedo body cars.

C-31 \$2.95 3 section 24-63"
C-71 3.75 3 section 37-92"
C-81 4.45 4 section 29-101"
C-101 3.95 4 section 24-80"



ILLUSTRATING
C-31

3 INSU- LATORS

and eye bolts furnished with C-31, C-71, C-81, C-101 for conventional and torpedo bodies.

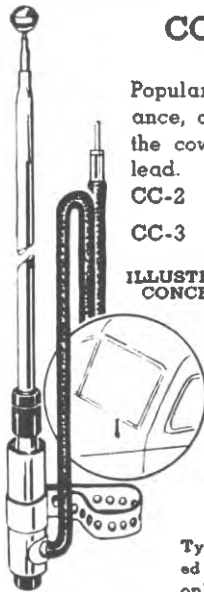


CONCEALED COWL

Popular because of their neat appearance, only 4 inches projecting above the cowl when fully collapsed. 42" lead.

CC-2 \$2.95 2 section 4-42"

CC-3 3.95 3 section 5-63"



ILLUSTRATING CC-3
CONCEALED COWL

UNDERHOOD BRACKET MOUNT

Require No Drilling of Finished Body Surface

CBH-1 \$1.95 2-section 24-44"

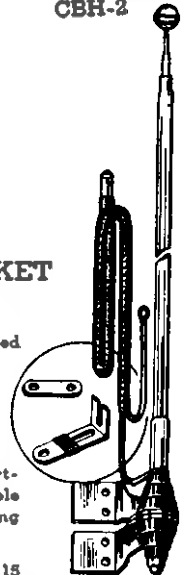
CBH-2 2.95 3-section 24-63"

CB-3 3.75 3-section 43-92"

Type CB-3, due to its great length, is supported by a double cowl bracket and is suitable only for installation under side opening hoods.

F-301 Special Bracket for Ford..... \$.15

ILLUSTRATING
CBH-2



ALL LEADS—Universal—Fit Pin type or Bayonet





RADIART AERIALS Guaranteed Rust-Proof



Ro-TENNA — Radiart's New Wind-up Aerial

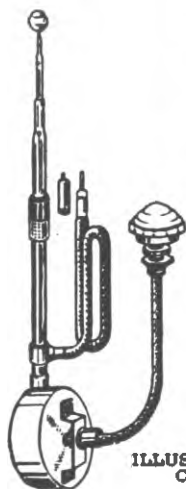
Just Turn the Knob to Raise or Lower Aerial to Right Height



CONCEALED COWL Ro-TENNA

Projects through cowl just in front of windshield. When collapsed only 3 in. extends. A flexible connection leads to the control knob, a clamp permitting easy fastening to edge of instrument board if you prefer not to drill through panel. Low-loss lead included.

CCW-1 \$6.95 5-63"

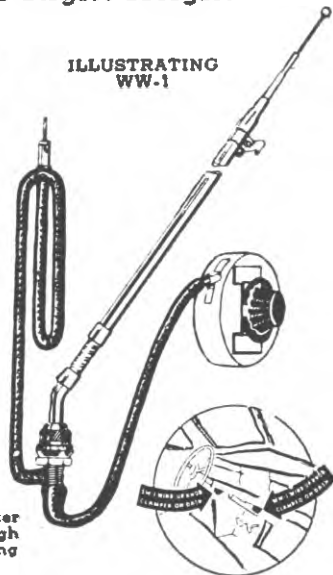


ILLUSTRATING
CCW-1

WINDSHIELD Ro-TENNAS

Mount through cowl in front of windshield, and follow center strip (WW-1) or side molding (SW-1). Both controlled through flexible connection to wind-up device and knob clamped along bottom of instrument panel. Low-loss lead included.

WW-1 \$8.95 21-53" Center Windshield
SW-1 5.95 21-53" Side Windshield



ILLUSTRATING
WW-1

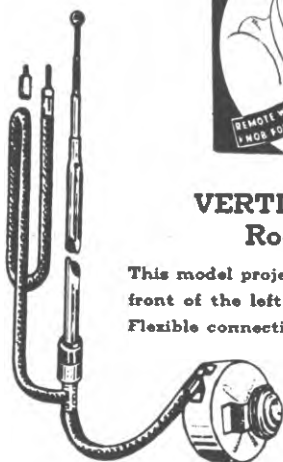


VERTICAL COWL Ro-TENNA

This model projects through cowl just in front of the left side of the windshield. Flexible connection leads to wind-up device and control knob

clamped along bottom of instrument panel. Low-loss lead included.

VW-1 \$5.95 21-53"



ILLUSTRATING
VW-1

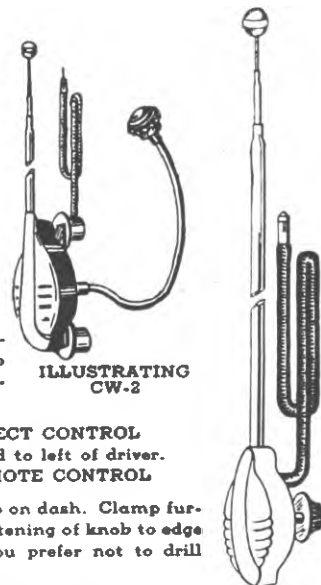
SIDE COWL Ro-TENNAS

Wind-up device in streamlined case which attaches to side cowl by 2 bolts. Low-loss lead included.

CW-1 \$5.95 24-63" DIRECT CONTROL
Knob handy on kick-pad to left of driver.
CW-2 \$6.95 24-63" REMOTE CONTROL

Flexible shaft leads to knob on dash. Clamp furnished permitting easy fastening of knob to edge of instrument board if you prefer not to drill through instrument panel.

F-202 \$0.35 5-degree Rubber Wedge for neat mount on Torpedo Bodies.



ILLUSTRATING
CW-2

ILLUSTRATING
CW-1

<p>Static Muffler</p> <p>Magic Ring</p>	<p>Universal Cowl Mounts</p> <p>STOCK 1 AERIAL for ALL</p>	<p>RADIART AERIAL Display</p>	<p>Permanent Anti-Rattler All-Metal.</p>	<p>Short Proof.</p> <p>New EASY PLUG-IN CONNECTOR</p> <p>NO TOOLS Fingers tighten insulator along rod</p> <p>VIBRATION PROOF</p> <p>Musky threads are metal-to-metal</p> <p>NO SHORTS All metal-to-metal thru the body</p> <p>One-man INSTALLATION</p>
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Permanent Anti-Rattlers—Patented by Radiart





VERTICAL MAST

The modern antenna for perfected home reception. More easily installed and less conspicuous than old horizontal aerials. Minimizes interference. Sectional admiralty complete with low loss ceramic insulators and special fittings for quick mounting to side of any structure, or clamping around soil pipe.

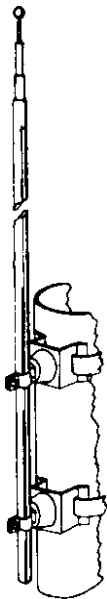
VM-3 \$5.95 5-section 14' to 16' 4"
Complete with Universal Angle bracket. Chrome plated rustproof admiralty rod. 40 feet lead wire.

VM-2 \$4.45 5-section 14' to 16' 4"
Complete as illustrated at left. Has no angle bracket, but soil pipe fittings will also hold rod against any vertical structure. 40 ft. lead.

VM-4 \$2.95 4-section 12'
Steel, cadmium plated. NOTE: despite the best of plating, steel cannot be guaranteed against rust. Soil pipe fittings only.

NOTE: VM-2 and VM-3 adjustable 14 feet to 16 feet, 4 inches.

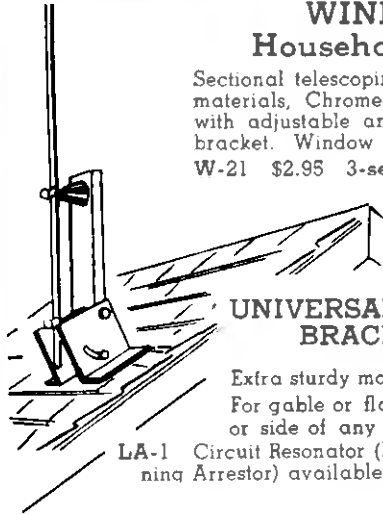
ILLUSTRATING VM-2



WINDOW Household Type

Sectional telescoping rods of Non-rust materials, Chrome-Plated. Complete with adjustable angle steel mounting bracket. Window Lead-in included.
W-21 \$2.95 3-section, 43-92"

ILLUSTRATING W-21



UNIVERSAL ANGLE BRACKET

Extra sturdy mounting. For gable or flat roofs or side of any structure.

LA-1 Circuit Resonator (Lightning Arrestor) available . . . \$.50 list

BUMPER TYPE

A husky clamp mounts the sectional telescoping rod securely to the bumper. Non-rust rod, Chrome-plated. Lead not included.
B-21 \$2.95 3-section 43-92"



UNDERCAR TYPE

A twin running board assembly one unit under each running board. Made of heavy rod with thick rubber covering. Welded connections. With its extra-strong brackets, this aerial stands up under rough usage.
U-6 \$3.95 DUOBOARD 49" long. 66" Shielded Lead included.



RADIART LEADS

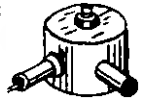
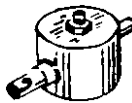
Description	Length	List Price
L-1—Lug, male bayonet, undercar	66"	.85
L-2—Lug, male bayonet, utility lead	36"	.60
L-5—Cup, male bayonet	36"	.65
L-7—Bushing for cup, male bayonet	36"	.50
L-10—Male and Female bayonet, extension	30"	.50
L-14—Lug, male bayonet, hinge	42"	.60
L-15—"Y", 2 cups, 1 male bayonet		1.00
L-17—Cup, male bayonet	42"	.75
L-18—Lug, male bayonet (hinge)	36"	.65
L-19—Extension, male and female bayonet	8"	.30
L-20—Cup, male bayonet, low capacity	42"	.90
L-21—Male pin, both ends, low capacity	40"	.75
L-22—Lug, male bayonet (hinge and underhood)	37"	.65
L-23—Cup, male pin, low capacity	42"	.65
L-24—Angle pin and male bayonet	40"	.75
L-25—Male and Female Pin, extension	8"	.30
L-26—Male and Female Pin, extension	20"	.45

RADIART FITTINGS, ADAPTERS

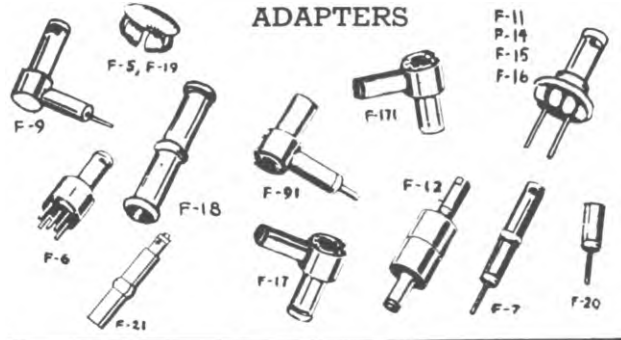
F-5—3/4" Snap-in Button	.10
F-6—Bayonet to 5-prong—1939 Buick	.25
F-7—Straight—Bayonet to Male Pin	.15
F-9—Angle—Bayonet to Male Pin thru Booster Coil—Motorola	.25
F-11—Bayonet to 3 prong plug—Firestone	.25
F-12—Bayonet to Bayonet—For suppression of Aerial pick-up of Ignition Interference	.25
F-13—Hood Ground Clip—with P.K. screws	.10
F-14—Bayonet to 4-prong reversible—Truetone, Wells Gardner, etc.	.25
F-15—Bayonet to 2-prong reversible—Firestone, Admiral, etc.	.25
F-16—Bayonet to Single Pin with grounding clip—Warwick, etc.	.25
F-17—Booster, angle—Bayonet both ends	.25
F-18—Female Bayonet on both ends	.35
F-19—1/2" Snap-in Button	.10
F-20—Single Pin Solder on Connector	.10
F-21—Single Pin Socket to Male Bayonet	.15
F-91—Single Pin socket to single Pin Plug thru Booster Coil, Angle	.25
F-171—Single Pin Socket to Male Bayonet thru Booster Coil, Angle	.25
F-201—5-degree Rubber Wedge for mounting CD & CM aerials on Torpedo Bodies	.15
F-202—5-degree Rubber Wedge for mounting CW aerials on Torpedo Bodies	.35
F-211—No. 9595 Adaptor Single Pin to Male Bayonet	.10
LA-1—Circuit Resonator (Lightning Arrestor) for Vertical Mast Aerials	.50
M-1—Matching Resonator for bringing mismatched aerial and radio input circuits into resonance. Male and Female Bayonet Connectors	1.50
M-2—Same as M-1, but with Male and Female Single Pin Connectors	1.50

RADIART MATCHING RESONATOR

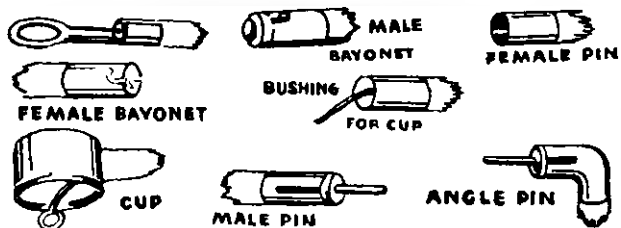
Type M1—Price \$1.50 with male and female bayonet connectors.
Type M2—Price \$1.50 with male and female pin connectors.



ADAPTERS



LEADS

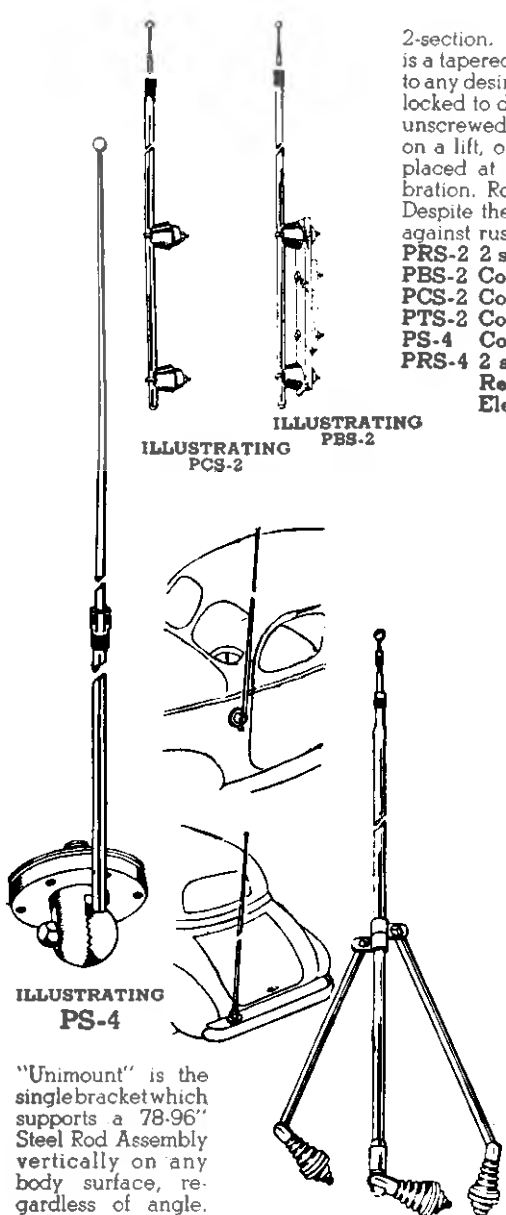




MOBILE COMMUNICATIONS ANTENNAE POLICE TYPES

Except for Model PS-4, antennae for this service are available in two distinct styles: (a) 2-section steel, (b) 3-section admiralty. Brackets and fittings are identical for both styles, black nickered for low visibility. Insulators are ceramic. Leads not included. PS-4 is the new "Unimount" requiring but one sturdy bracket which can be mounted on any body surface. Special types are being continually engineered for unique applications. Our engineering department invites consultation.

Illustrating locking device, permitting tapered steel rod to be instantly removed or replaced without re-adjustment.



ILLUSTRATING
PCS-2

ILLUSTRATING
PBS-2

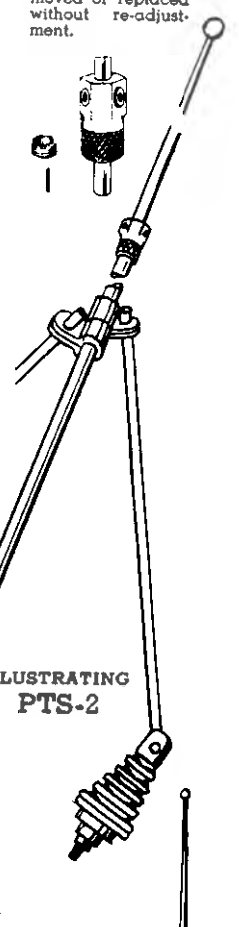
ILLUSTRATING
PS-4

"Unimount" is the single bracket which supports a 78-96" Steel Rod Assembly vertically on any body surface, regardless of angle.

STEEL (2-Section) 78-96"

2-section. Base of hardened steel tubing. Main Section is a tapered rod of FORGED STEEL, 78" long, adjustable to any desired length with positive locking ferrule. When locked to desired length, extension rod may be instantly unscrewed from base section to permit servicing of car on a lift, or for any other reason; and may be easily replaced at exact pre-determined length without re-calibration. Rods and fittings are black nickered. NOTE: Despite the best of plating, Steel cannot be guaranteed against rust.

PRS-2 2 sec. Steel Rod Assembly, 78-96"	\$8.50
PBS-2 Complete with Bumper fittings	11.50
PCS-2 Com. with Cowl Mount fittings	10.50
PTS-2 Com. with Trunk Mount fittings	16.50
PS-4 Com. Unimount Antenna	14.50
PRS-4 2 sec. Steel Rod Assembly, 78-96"	
Replacement for Radiart, Western Electric, Link	9.50



ILLUSTRATING
PTS-2

PR-5 4-Section Admiralty Rod Assembly, including ceramic insulator and universal joint.

ILLUSTRATING
PR-5 Length 46-167" \$15.00

All sections adjusted by newly designed positive locking knurled and hex nuts. For mobile police work, marine and other service requiring rods of this exceptional length; but not intended for use when mobile unit is in motion. Brackets to hold it erect and clamps to secure it when collapsed are designed and made by the user to suit individual requirements.

ADMIRALTY (3-Section) 40-100"

3-section. 40-100" Each section adjustable and firmly locked in position by knurled nuts. Triple-plated chrome.

PR-2 3 section Rod Assembly, 40-100"	\$ 5.50
PB-3 Complete with Bumper fittings	8.50
PC-3 Complete with Cowl fittings	7.50
PT-3 Complete with Trunk fittings	13.50

ILLUSTRATING
PMS-1

STEEL MOTORCYCLE AERIAL PMS-1 Forged steel 33" whip antenna with brackets for motorcycle mount, and lead. \$3.50



ATR REPLACEMENT VIBRATOR GUIDE

For AUTO and FARM RADIOS



ATR Vibrators are proven units of the highest quality, engineered to perfection. They are backed by more than seven years of vibrator design and research, development and manufacturing—ATR pioneered in the vibrator field.

Only the best materials and workmanship are incorporated to make ATR Replacement Vibrators the finest that can be built.

If the vibrator you require is not listed, write us—sending the old vibrator unit—and a proper replacement will be supplied you.



Insist on ATR Vibrators — The Best by Test

● Longer Life

● Improved Performance

● Precision Construction

Popular Auto Radio Receivers

MAKE	MODEL	Vibrator Number	List Price
Acratone.	40, U6	324	\$2.75
	49, 51, 92, 92A, 94A, 460	303	2.50
Addison	531, 631	303	2.50
Admiral	U6	324	2.75
Aircastle.	603	303	2.50
	U6	324	2.75
Airline—See Montgomery-Ward & Co.			
Airmate—See United Motors Service.			
All-American			
Mohawk	A60	303	2.50
Allied Radio Corp.	F9541, F9551	303	2.50
	U6	324	2.75
(Knight)	6820	535	6.00
Arcadia—See Wells-Gardner.			
Arvin—See Nohltt-Sparks.			
ATR	B Eliminator, Types 1, 2, 3	303	2.50
	B Eliminator, Type 4	318	2.90
	60, 70, Duo	303	2.50
Atwater Kent.	660, 776	326	2.90
	816	351	4.25
	434, 534	550	4.50
Audiola—See Fairbanks-Morse.			
Autocrat.	5	303	2.50
Automatic.	1933, 1934, 1935, Junior, Senior, Junior Twin Six, A600, AR600	303	2.50
	A1, J80	305	2.65
Baldwin	Chassis 54, 64	324	2.75
Balkitt	Chassis 54, 64, U6	324	2.75
Belmont	660	303	2.50
	1932 Models	392	6.00
	566, 666, 668	324	2.75
	667, 670A, 690, 880A, 880B, 880C, 880, 580, 680, 680A, 680B, 680C	326	2.90
	6U	314	3.00
"Bosch"—See United American Bosch.			
Buick-Olds-Pontiac—See United Motors Service.			
Cavalcade.	Chassis 54, 64	324	2.75
Cadillac	06W Standard, 06W Master	594	6.50
	2721 (062)	393	5.50
	2722 (072A)	594	6.50
	GU2	314	3.00
	56V1	303	2.50

MAKE	MODEL	Vibrator Number	List Price
Canadian Radio Corp.	513C, 513DOR	553	\$4.25
Chevrolet—See United Motors Service.			
Clarion	100AR	324	2.75
	TC50 4-prong Socket	324	2.75
	TC50 6-prong Socket	326	2.90
Colonial	106B—Power Supply	303	2.50
	150	504	4.75
	164	307	2.50
	164B	326	2.90
Consolidated	51	553	4.25
Crosley	98, 99, 102, 103, 5A1	553	4.25
	4A1, 6B1, 5A3	523	3.90
DeForest Crosley (Canada)			
	51, 510, 513C, 513D	553	4.25
Delco—See United Motors Service.			
Detroit	6A-1100-1100A	307	2.50
	111, 112, 106, 171	324	2.75
	6A1, 6R	324	2.75
	1934, 1935	303	2.50
Dewald	52, 61	303	2.50
	517, 606, 607	322	2.90
	605, 527, 617, 702	322	2.90
Electric Autolite—See Wells-Gardner.			
Electronic	B. Eliminator	303	2.50
Emerson	965-667	326	2.90
	5A	391	5.25
	678-1	554	5.00
	6A	317	3.00
	678	550	4.50
	U-154, V-155	322	2.90
	All AS Models	522	3.75
Erla-Sentinel	5500	324	2.75
	600-602-603	303	2.50
Fada	101-102-104-104B	303	2.50
	166	317	3.00
	266, 267	324	2.75
Fairbanks-Morse	23-S-7, 33-S-6 (1st Series)	392	6.00
	23-S-7, 33-S-6 (2nd Series)	303	2.50
	33-A-6	554	5.00
	346, 347	327	2.90
	C6, 64, 74	324	2.75
Federated Purchaser	92, 92A, 94A, 460	303	2.50
Firestone	R-1322 (R-132)	537	3.90
	R-1332 (R-133)	324	2.75
	Travler (1314)	324	2.75
	R-1431	328	2.75

January 15, 1938.

AMERICAN TELEVISION & RADIO CO.

St. Paul, Minn.

NOTE:—All Prices Subject to Change Without Notice.

ATR Replacement VIBRATOR GUIDE

For all Popular Auto Radio Receivers -- continued

MAKE	MODEL	Vibrator Number	List Price	MAKE	MODEL	Vibrator Number	List Price
Ford (Majestic)	40-18805	307	\$2.50	Northern Electric (Canada)	33, 40	505	\$4.90
	Glove Box Police	307	2.50		61	326	2.90
(Philco)	All	330	2.75	Pacific	101, 102	303	2.50
(Lincoln)		326	2.90	Philco (Also Canadian)	Police (810PB, 811P)	334	3.00
Ford (Canada)	Majestic (Utah Carter Pack)				Prior to 1936, 816	330	2.75
	Marconi	326	2.90		1936, 1937 and 817, 818, 819	324	2.75
	Majestic	307	2.50	Phonola (Canada)	3A61, 3A62	307	2.50
	Philco (Prior to 1936), 816,	330	2.75	Radiart	B Eliminator	303	2.50
	Philco (1936), (1937),				Majestic Replacement Unit	303	2.50
	817, 818, 819	324	2.75	Radiette	Chassis 54, 64	324	2.75
Freed	A7, A9	504	6.50	RCA Victor (Also Canadian RCA)	5M1, 6M1, 6M2, 67M1, 67M2, 67M3	525	3.90
Galvin Mfg. Corp (Motorola)	Motorola Police	334	3.00		M134-M105	505	4.90
	34, 56, 60, 80, 90, Golden				M116 (Arm-Rest Model)	505	4.90
	Voice, 35, 45, 65, 70	324	2.75		M107	314	3.00
	85, 61	392	6.00		M107 (12-volt)	315	3.25
	77	593	6.50		AR 4229	505	4.90
	77A, 44A, 66	503	4.75		H 6 (Hudson), RS 63-1	324	2.75
	55, 55A, 44	592	6.50		M123	531	5.25
	57, 62, 75, 79, 100, 110,	316	3.00		M101, M104, M108	536	3.90
	Dual 6 and Twin 8	314	3.00		M101, M104, M108, 12-V.		
Gamble-Skogmo	26S1	314	3.00		Automotive	538	4.50
	670	326	2.90		M109, 67M	324	2.75
Garod—See Grebe.				Reliance	U6	324	2.75
General Electric (Also Canadian General Electric)	B40-C41	505	4.90	Remler	27 (Scotty)—35	303	2.50
	B52 Arm-Rest Model	505	4.90	Rogers (Canada)	918	553	4.25
	C60	314	3.00	Sears-Roebuck	4490	525	3.90
	C61	531	5.25		3400	332	2.90
	D50, D51, D52	536	3.90		7128 4-prong Socket	324	2.75
	D72, N-60	324	2.75		6-prong Socket	326	2.90
	N51, FA-60, FA-61, FA-80	524	3.90		7117, 1859, 1859-A	504	4.75
General Motors (Canada)	134, 135	553	4.25		7157, 7167, 1869	324	2.75
	136, 137, 138, 640, 641, 540	508	4.75	Sentinel—See Erla-Sentinel.			
Gilfiban	All 1933-34-35-36	326	2.90	Setchell-Carlson	44, 45, 60, 60S, 66, 66S, 68, 68S, 70, 70S, 71, 71S, 80	320	2.90
G. F. Goodrich Rubber Co.—See Galvin (Motorola).				Serenader (Canada) See Phonola (Canada).			
Goodyear Service Stores—See Belmont.				Sheridan	5 Tube	303	2.50
Goldentone	U6	324	2.75	Simplex	T, DB, PB, Q	303, 521, 324	2.50, 3.75, 2.75
Gold Medal	U6	324	2.75	Solar—See Wells-Gardner.			
Graybar	150 (Chassis)	504	4.75	Spartan (Also Canadian)	33-33A, 333	303	2.50
Grebe	61 R	303	2.50		36	550	4.50
Grigsby-Grunow Co. (Majestic)	66, 116, 116A, 118	307	2.50	Star—See Wells-Gardner.			
	40-18805 (Ford)	307	2.50	Stewart Radio	50, 60	303	2.50
Grunow	625	507	4.75	Stewart Warner	1171, 1172, 1181, 1182, 1183	324	2.75
	614-618	324	2.75		R-117, R-118	324	2.75
Gulbrandsen—See Wells-Gardner.					R-112, 1121, 1122, 1123	303	2.50
Halson	199, Roadmaster	307	2.50		1311, 1312, 1314, 1315, 1316,		
Harley-Davidson	All	506	4.75		1317, 1318, 1319	324	2.75
Hetro	15566	326	2.90		R-131	324	2.75
Howard Radio Co.	HA4	324	2.75		R-132, R-1322	537	3.90
	HA6	525	3.90		R-133, R-1332	324	2.75
	HA7, HA9	323	2.75		1601, 143	328	2.75
Hudson Terraplane	Majestic Head	307	2.50	Stromberg-Carlson (Also Canadian)	33, 33A	594	6.50
	650HD, 651HE	303	2.50	Supertone	U6	324	2.75
	660TD, 661TE	303	2.50	Tiffany Tone (Herbert Horn)	535, 536	326	2.90
	666, 668, 680, H-6	324	2.75	Trav-Ler	54, 64	324	2.75
Hudson Terraplane (Canada)	Marconi, 650, 660	303	2.50	Tropic-Aire—See Wells-Gardner.			
	680, H6	324	2.75	Troy	TR-86, 46, 68, Early 86	326	2.90
International	K-60 (K-6)	326	2.90		L te 86, 1937	324	2.75
Karadio (Northland Mfg. Co)	57, 65, 66, 85, 150, 160, 180	326	2.90	Truetone—See Western Auto.			
	All 1937 Models	326	2.90	Truevalue	6U	314	3.00
	All 1938 Models	324	2.75	United American			
Kartone	1936	324	2.75	Bosch	524A-634-634A	317	3.00
Knight—See Allied Radio Corp.					140 (Ed. 2 & 3)	504	4.75
Lafayette	S17762	594	6.50		130 (Edition 1)	594	6.50
	B62	536	3.90		150 (Edition 2)	504	4.75
	062-062A	393	5.50		160, 45A, 45C	504	4.75
	L-30, 6S	314	3.00		189HB, 189HR (Police)	525	3.90
	L-23, AM20	326	2.90		79	314	3.00
	C-60, LW 10	324	2.75		536, 636, 637, 736, 737, 738	324	2.75
Larkin Company	91	303	2.50	United Motors Service			
"Lewol"	9101, 9102	303	2.50	Buick-Olds-Pontiac , 393884-393885	508	4.75	
Lyric (Canada)	A60	303	2.50		405045-405046	508	4.75
Majestic—See Grigsby-Grunow Co.					405057	508	4.75
Mallory Eliminator	Types 1, 2, 3, 4, 5, 6	393	5.50		405062-405063	508	4.75
	Types 10, 10C, 10CA, 10P, 10PC, and 10ST	594	6.50		544245-544246	508	4.75
	Types 11, 11M, 11C, 11CD, 11P, and 11PC	594	6.50		544267-544268-544289-544290-544291-544297-544298	508	4.75
	Types 12, 12C and 12PC	594	6.50		980393	303	2.50
	Types 13 and 13S	594	6.50		980441	550	4.50
	Types 14, 14C and 14PN	594	6.50		980455-980459	550	4.50
Marconi (Canada)	48	303	2.50		980507-980508	507	4.75
	Ford	326	2.90		980509, 980525	507	4.75
	69	324	2.75		982006-982007	508	4.75
Mission Bell	10A, 11, 12, 14, 16, 25A	303	2.50		982008	508	4.75
Monarch	Chassis 54, 64, U6	324	2.75		983506-983507	508	4.75
Montgomery-Ward (Atrline)	87	303	2.50		1291344-1291345	508	4.75
	62-166, 62-118 (6U)	314	3.00		All 1937 Sets	335	2.75
	Auto Radio	393	3.50	Chevrolet	36441	350	2.50
	62-199 (5Y)	536	3.90		600153-600566	550	4.50
Motomaster	611	332	2.90		600249-600565	550	4.50
Motorola—See Galvin Mfg. Corp.					601038	508	4.75
Music Master	Ten-Ten	303	2.50		601176-601177	508	4.75
Noblit-Sparks (Arvin)	15, 25, 35, 45 (1st Series)	326	2.90		601525, 601574	508	4.75
	15, 25, 35, 45 (2nd Series)	303	2.50		601586	508	4.75
	10A, 20A, 30A	303	2.50		601662, 601814	508	4.75
	20B, 30B, 16	303	2.50		985100-985200	324	2.75
	7, 17, 17A, 27, 37	324	2.75		985300	507	4.75
	18, 28, 33	324	2.75				
	93, 19, 29	323	2.75				
	39	324	2.75				

ATR Replacement VIBRATOR GUIDE

For all Popular Auto Radio Receivers -- continued

MAKE	MODEL	Vibrator Number	List Price
United Motors Service			
Chevrolet (Continued)	985400	508	\$4.75
	All 1937 Sets	335	2.75
	625, 627, 628, 629, 634, 635	504	4.75
	630, 631, 632, 633, 500	324	2.75
	2035, 4036	303	2.50
	4037, 4038	550	4.50
	R-640, R-641, R-642, R-643		
	R-644	335	2.75
Universal (Universal Bat. Co.)	802, 803, 804, 805, 60, 70		
	80	324	2.75
Utah	"B" Eliminator Non-synchronous	303	2.50
Wells-Gardner	V6Z2*	303	2.50
	Z6Z1*	303	2.50
	25Y1	536	3.90
	25Y1-12 volt	538	4.50
	062-062A	393	5.50
	072-072A	594	6.50
	06W (1st Series)	594	6.50
	06W (2nd Series)	594	6.50
	26U1 (6U)	314	3.00
	26S1 (6S)	314	3.00
	063	394	6.50
	6K	524	3.90
	6R	314	3.00
	6N	324	2.75
	6C1	324	2.75
	6J	524	3.90
Western Auto (Truetone)	S-732 (Z6Z1)*		
	S-733, (V6Z2)*	303	2.50
	S-690, (062), S-691, (062-A)	393	5.50
	S-740 (6U)	314	3.00
	S-735 (25Y1)	536	3.90
	S-743, 1312 (R-131)	324	2.75
	070 (68)	314	3.00
*See above			
Westinghouse	WR-25, WR-26		
	4-prong Socket	324	2.75
	6-prong Socket	326	2.99
	WR-500-501	317	3.00
Westinghouse (Canada)	A43, A44	505	4.90
Wilcox-Gay	4B6, Roadmate	303	2.50
Wurlitzer	460-A60	303	2.50
Zenith	7	326	2.90
	460-462 (2057)	303	2.50
	650HD-651HE, 660TD		
	661TE	303	2.50
	Ford	326	2.90
	666, 668, 680, 6M190, 7M91S, 7M91D	324	2.75
	5M191, 6M192, 6M193, 6M194, 8M195	324	2.75

6-VOLT HOUSEHOLD RECEIVERS

MAKE	MODEL	Vibrator Number	List Price
Addison	N-655	535	\$6.00
Admiral	L7, X6, Z4, Z5	521	3.75
Aircastle	BA41, L7, X6, Z4, Z5	521	3.75
Acratone	L7, X6, Z4, Z5	521	3.75
Arvin	6 volt models, 517, 517B, 617, 617B	520	3.75
Balkitt	L7, X6, Z4, Z5	521	3.75
Cavalcade	3511	521	3.75
Crosley	0615, 435	522	3.75
Delco	6010	534	3.75
Detroit	128, 129, 144, 145, 180, 184, 186, 189	520	3.75
Fada	1246, 246	528	3.75
	66	520	3.75
General Electric	FB-53, FB-57, FB-73, FB-77	529	3.75
	U-51, U-55	527	3.75
Goldentone	L7, X6, Z4, Z5	521	3.75
Goldmedal	L7, X6, Z4, Z5	521	3.75

MAKE	MODEL	Vibrator Number	List Price
Grebe	2B2, 2B6, 3B6, 3B2	528	\$3.75
Grnow	1936 models, 410, 411, 711	520	3.75
	4NB	520	3.75
	5AB, 508 509	321	3.25
Hetro	16010	526	3.75
Howard	6B, 6BA, 6BT, 7BT	520	3.75
Jacobs	None	522	3.75
Knight	L7, X6, Z4, Z5	521	3.75
	(Chassis 6820	535	6.00
LeWol	9682	535	6.00
Lafayette	J60	535	6.00
Monarch	L7, X6, Z4, Z5	521	3.75
Pacific	692	535	6.00
Rellance	L7, X6, Z4, Z5	521	3.75
Seitchell-Carlson	40, 50, 41, 51, 410, 510	520	3.75
	61, 62, 610, 620, 622, 630	320	2.90
Stromberg-Carlson	115	534	3.90
Supertone	L7, X6, Z4, Z5	521	3.75
L'Atro	6A, K665, J665, H465, I465	509	4.75
	R5236, Q5636, P4626, Q4626, M4616, All 1st Series	590	6.50
	R5236, Q5636, P4626, Q4626, M4616, All 2nd Series	535	6.00
	AM-66, BM, CM, EN-64, FN-66, GN-66, NO-65, OO-65		
	QP-65, SP-67, TP-67	522	3.75
	320	320	2.90
RCA Victor	6BK6, 6BT6, 8BK8, 8BT8	525	3.90
Universal (Universal Bat. Co.)	61A6, 63A6, 72A6, 73A6, (1936 Models)	530	3.90
	61A6, 63A6, 72A6, 74A6, 30A6, (1937 Models), 66T, 56T	522	3.75
Western Auto (Truetone)	L7, X6, Z4, Z5	521	3.75
Wilcox-Gay	6J4, A-24, A-25	522	3.75
Zenith	4V31, 4V59, 6V27, 6V62	522	3.75
	5J217, 5J247, 5J255, 6J230, 41957, 71222, 71269	524	2.75
	4B231	529	3.75

32-VOLT HOUSEHOLD RECEIVERS

MAKE	MODEL	Vibrator Number	List Price
Atwater Kent	135Z, 215Z, 265Z, 305Z	2327	3.50
Crosley	119, 159	2553	5.00
Delco	4050, 4051	2553	5.00
	3203	2401	4.50
Eria-Sentinel	5600	2404	3.65
	6101	2304	3.00
Fairbanks-Morse	33-S-8 (1st Series)	2392	6.50
	33-S-8 (2nd Series)	2309	3.00
Lafayette	B64	2404	3.65
Majestic	490, 491, 493 (Transformer Type)	2300	3.27
	490, 491, 493 (Plug-in Type)	2424	3.50
Montgomery-Ward (Airline)	62-136, 62-138	2404	3.65
Philco	32	2337	4.00
Simplex	P	2304	3.00
L'Atro	F293, F913, E83, J5, G63, N54, L54, 084, N74, L74, 094, F725, D625, C625, P54, P64, X6236, W6236, V5226, U5226, T6216, IN24, JN27, KN27, UP36, VP38	2305, 2306, 2395, 2396	6.00, 6.50
United Motors Service	4049	2401	4.50
Universal (Universal Bat. Co.)	26B, 26B3, 7232, 7332	2404	3.65
	8232, 8432	2325	3.50
Wells-Gardner	26B1, 26B5	2404	3.65
Zenith	5x230, 5x248, 5x274	2324	3.50

ATR Replacement VIBRATORS -- Cross Reference

Vibrator Number	Price	Used in	Model Number	Vibrator Number	Price	Used in	Model Number	Vibrator Number	Price	Used in	Model Number		
303	\$2.50	Acratone	49, 51, 92, 92A, 94A, 460	303	\$2.50	Detroit	1934 and 1935 Models	303	\$2.50	Radiant	B Eliminator, Majestic Replacement Unit		
		Admission	531, 631	(Continued)		Deward	32, 81			Remler	27, 35		
		Aircastle	603			Electronic	B Eliminator			Sheridan	5-tube		
		All-American Mo-hawk	A60			Eria Sentinel	600, 602, 603			Simplex	T		
		Allied	F9541, F9551			Fada	101, 102, 104, 104B			Sparton	33, 33A, 333		
		Arvin	10A, 20A, 20B, 25 (2nd Series), 15 (2nd Series), 16, 30A, 30B, 35 (2nd Series), 45 (2nd Series)			Fairbanks-Morse	23S7 (2nd Series), 33S6 (2nd Series)			Stewart Radio	50, 60		
		ATR B Eliminator	Type 1, 2, 3			Federated Purchaser	92, 92A, 94A, 460			Stewart-Warner	R112, 1121, 1122, 1123		
		ATR	60, 70, Duo			Grebe	61R			Utah	"B" Eliminator		
		Autocrat	5			Hudson-Terraplane	650HD, 651HE, 660TD, 661TE			Wells-Gardner	V6Z2, Z6Z1		
		Automatic	1933, 1934, 1935, Jr, Sr, Jr. Twin Six, A600, AR800			Hudson-Terraplane (Canada)	Marconi 650, 660			Western Auto	S732 (Z6Z1), S733 (V6Z2)		
		Belmont	660			Larkin	91			Wilcox-Gay	4B6, Roadmate		
		B. O. P.	980383			Lewol	9101, 9102			Wurlitzer	A60, 460		
		Cadillac	56V 1			Lyric (Canada)	A-60			Zenith	460 (2057), 462, 650HD, 651HE, 660TD, 661TE		
		Chevrolet	364441			Marconi (Canada)	48						
		Colonial	5			Mission Bell	10A, 11, 12, 14, 16, 25A						
		Colonial	106B, Power Supply			Montgomery-Ward	87			305	2.65	Automatic	A1, J80
		Delco	2035, 4036			Musio-Master	Ten-Ten			307	2.50	Colonial	164
						Pacific	101, 102					Detroit	1190, 1100A, 6A
												Ford	Glove Box Police, 40-16805
										(Continued Next Page)			

ATR Replacement VIBRATORS -- Cross Reference

Vibrator Number	Price	Used in	Model Numbers	Vibrator Number	Price	Used in	Model Numbers	Vibrator Number	Price	Used in	Model Numbers				
307	\$2.50 (Continued)	Ford (Canada) Halson Hudson-Terraplane Majestic 66, 116, 116A, 118, 140-18805 Phoncia (Canada)	Majestic 199, Roadmaster Majestic 66, 116, 116A, 118, 140-18805 3A61, 3A62	326	\$2.90 (Continued)	Clarion Colonial Emerson Ford Ford (Canada) Gamble-Skogmo Giffillan Hetro International Karadio Lafayette Lincoln Northern Electric (Canada) Sears-Roebuck Tiffany Tone Troy Westinghouse Zenith	TC50 (6 prong) 164B 667, 965 Lincoln Majestic (Utah Carter Pack), Marconi 670 All 1933-4-5-6 15566 K60 (K6) 57, 65, 66, 85, 150, 160, 180 1937 L23, AM20 Ford 61 7128 (6 prong) 535, 536 TR86, 46 68, Early 86 WR26, WR25 (6-prong Socket) 7, Ford	525	\$3.90	Howard RCA Victor Sears-Roebuck United American Book (Police)	HA6 5M, 6M, 6M2, 6BK6, 6BT6, 8BK8, 8BT8 4400 189HB, 169HR				
314	3.00	Blackhawk Boech Cadillac Gamble-Skogmo General Electric Lafayette Montgomery-Ward Motorola RCA Victor Truevalue Wells-Gardner Western Auto	6U 79 6U2 26S1 C60 L30, 6S 62-118 (6U) 62-166 Dual 6, Twin 8 M107 6U 26S1 (6S), 26U1 (6U), 6R S740 (6U) 670 (6S)	327	2.90	Fairbanks-Morse Firestone Stewart-Warner	346, 347 R1431 1601, 143	526	3.75	Hetro Howard	16010 6B, 6BA, 6BT, 7BT				
315	3.25	RCA Victor	M107 (12-volt)	328	2.75	Philco (Prior to 1936)	816	527	3.75	General Electric	U-51, U-55				
316	3.00	Motorola	57, 62, 75, 100, 79, 110	329	2.75	Philco (Prior to 1936)	816	528	3.75	Grebe Fada	2B2, 2B6, 3B6, 3B2 1246, 246				
317	3.00	Boech Emerson Farfa Westinghouse	524A, 634, 634A 6A 166 WR500, WR501	330	2.75	Philco (Prior to 1936)	816	529	3.75	General Electric Zenith	FB-53, FB-57, FB-73, FB-77 4B231				
318	2.90	ATR "B" Elim	Type 4	332	2.90	Motomaster Sears-Roebuck	611 3400	530	3.90	Universal	61A6, 63A6, 72A6, 73A6, 1936 Models				
320	2.90	L Tatro Setchell-Carlson	QP-65, SP-67, TP-67 44, 45, 60, 60S, 61, 62, 66, 66S, 68, 68S, 70, 70S, 71, 71S, 80, 610, 620, 622, 630	334	3.00	Galvin Philco	Motorola Police Police, 810PB, 811P	531	5.25	General Electric RCA Victor	C61 M123				
321	3.25	Grunow	5AB, 508, 509	335	2.75	Delco B. O. P. Chevrolet	R-640, R-411, R-642 R-643, R-644 All 1937 Sets All 1937 Sets	534	3.90	Delco Stromberg-Carlson	6010 115				
322	2.90	Emerson Dewald	U-154, U-155 517, 527, 605, 606, 607, 617, 702	392	6.00	Motorola Belmont Fairbanks-Morse	88, 61 1932 Modela 2387 (1st Series), 3356 (1st Series)	535	6.00	Addion Allied Lafayette Lewol L Tatro	N655 (Chaese 6820) J60 S682 R5236, Q5636, P4026, Q1626, M4616, (2nd Series)				
323	2.75	Detrola Howard Noblitt-Sparks	111, 112, 166, 171 HA-7, HA-9 9A, 19, 29	393	5.50	Mallory "B" Elim Cadillac Lafayette Montgomery-Ward Wells-Gardner Western Auto	Type 1, 2, 3, 4, 5, 6 2721 (062) 062, 062A Auto-Radio 062, 062A S690 (062) S691 (062A)	536	3.90	General Electric Lafayette Montgomery-Ward RCA Victor Wells-Gardner Western Auto	D50, D61, D52 B62 62-199 (5Y) M101, M104, M108 25Y1 (5Y) S735 (25Y1)				
324	2.75	Aeratone Admiral Aeroslate U6 Arvin Baldwin Balkeitt Belmont Boech Cavalade Chevrolet Clarion Delco Detrola Eria-Sentinel Fada Fairbanks-Morse Allied Firestone General Electric Goldentone U6 Goidmedal Grunow Howard Hudson-Terraplane Hudson Terraplane (Canada) Kartone Karadio Lafayette Marconi (Canada) Monarch Motorola Philco RCA Victor Radlette Reliance Sears-Roebuck Simplex Stewart-Warner	40, U6 U6 U6 U6 7, 17, 17A, 27, 37, 18, 28, 33, 39 (Chaese 54, 64) (Chaese 54, 64), U6 566, 666, 668 536, 636, 637, 736, 737, 738 (Chaese 54, 64) 985100, 985200 100AR, TC50 (4 prong) 636, 631, 632, 633, 500 6M, 6R 5500 266, 267 C6, 64, 74 R1332 (R133), Trav-ler (1314) D72, N-60 U6 U6 614-618 HA4 666, 668, 680, H6 1936 1938 C80, LW10 69 (Chaese 54, 64), U6 34, 50, 60, 80, 90, 35, 45, 65, 70 (1936) 817, 818, 819 1937 Models M109, RS63-1, H6 (Hudson), 67M (Chaese 54, 64) U6 7128 (4-prong), 7157, 7167, 1869 Q R117, 1171, 1172, R118, R131, 1311, 1312, 1314, 1315, 1316, 1317, 1318, 1319, 1181, 1182, 1183, R133, R1332 U6 (Chaese 54, 64) Late 86, 1937 802, 803, 804, 805, 60 70, 80 6N, 6C1 S743, I312 (R131) WR25, WR26 (4-prong Socket) 668, 665, 680, 6M90, (M918, M91D) 5M191, 6M192, 6M193, 6M194, 8M195, 5J217, 5J247, 5J255, 6J230, 6J237, 7J232, 7J269	503	4.75	Motorola	44A, 66, 77A	504	4.75	Boech Colonial Graybar Sears-Roebuck	45A, 45C, 140 Ed. 2 and 3 150 Ed. 2, 160 150 150 1856, 1859A, 7117	551	4.25	Atwater Kent	816
505	4.90	General Electric Northern Electric (Canada) RCA Victor Westinghouse (Canada)	B40, C41, B52 Northern Electric (Canada) 33, 40 M34, M105, M118, AR4229 A43, A44	506	4.75	Harley-Davidson	All	553	4.25	Canadian Radio Corp. Consolidated Crosley DeForest Crosley (Canadian) General Motors (Canada) Rogers (Canada)	513C, 513DOR 51 98, 99, 102, 103, 5A1 51, 510, 513C, 513D 134, 135 919				
506	4.75	Harley-Davidson	All	507	4.75	B. O. P. Chevrolet Grunow	980507, 980508, 980509, 980525 985300 625	554	5.00	Emerson Fairbanks-Morse	678-1 33A6				
508	4.75	B. O. P.	393884, 393885, 405045, 405046, 405067, 405062, 405063, 544245, 544246, 544267, 544268, 544289, 544290, 544291, 544297, 544298, 983506, 983507, 982006, 982007, 982005, 1291344, 1291345	509	4.75	L Tatro	6A, K665, H465, J665, 1465	590	6.50	L Tatro	R5236, Q5636, P4026, Q1626, M4616 (1st Series)				
520	3.75	Arvin Detrola Fada Grunow Setchell-Carlson	6-volt models, 517, 517B, 617, 617B 128, 129, 144, 145, 180, 184, 186, 189 66 1936 models 410, 411, 711 4N B 40, 41, 50, 51, 410, 510	508	4.75	B. O. P.	393884, 393885, 405045, 405046, 405067, 405062, 405063, 544245, 544246, 544267, 544268, 544289, 544290, 544291, 544297, 544298, 983506, 983507, 982006, 982007, 982005, 1291344, 1291345	591	5.25	Emerson	5A				
521	3.75	Aircastle Admiral, Aeratone, Balkeitt, Goldentone, Goidmedal, Knight, Monarch, Reliance, Supertone, True-tone, Simplex Cavalade	BA41, L7, X6, Z4, Z5 All L7, X6, Z4, Z5 DB, PB 3511	592	6.50	Motorola	55, 55A, 44	593	6.50	Motorola	77				
522	3.75	Crosley Emerson L Tatro	6615, 435 All AS Models AM, BM, CM, EN, 64, FN-66, GN-66, NO-65, OO-65 None 61A6, 63A6, 72A6, 74A6, 50A6, 1937 Models, 60T, 56T	594	6.50	Boech Cadillac Freed Lafayette Mallory "B" Elim	150 (Ed. 1) 06W Standard, 06W Master, 2722 (072A) A9, A7 S1762 Type 10, 10C, 10CA, 10P, 10PC, 10ST 11, 11M, 11C, 11CD, 11P, 11PC, Type 12, 12C, 12PC, 13, 13S, 14, 14C, 14PN 33, 33A 06W (1st Series), 06X, 072, 072A, 06W (2nd Series)	2304	3.00	Eria-Sentinel Simplex	6101 P				
523	3.90	Crosley	4A1, 6B1, 5A3	2309	3.00	Fairbanks-Morse	3388 (2nd Series)	2324	3.50	Majestic Zenith	490, 419, 493 (Plug-in type) 5x230, 5x248, 5x274				
524	3.90	General Electric Wells-Gardner	N51, FA-60, FA-61, FA-80 6K, 6J	2325	3.50	Universal	8232, 8432	2327	3.50	Atwater Kent	135Z, 215Z, 265Z, 305Z				

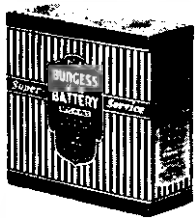
|||||BURGESS|||||

RADIO "A" "B" AND "C" BATTERIES

RECOGNIZED BY THEIR STRIPES

REMEMBERED BY THEIR SERVICE

Ask any Radio Engineer!



2308

No. 2308—Standard size, favorite where space is limited and efficient operation desirable.

No. 5156—A 22½-volt "C" Battery equipped with plug-in socket or spring clips.



5156



21308

Super heavy-duty size. The best by test for long economical service. Only uniformly high quality cells are used in Burgess radio batteries. Recommended particularly for radios with 20 milliamperes drain.

RADIO "B" BATTERIES

Burgess No.	Volts	Size in Inches	Ship. Wgt.	Unit Pkg.	List Price
21308	45	7 3/8 x 8 1/4 x 4 1/2	12 3/4 lbs.	6	\$2.90
22308	45	7 1/2 x 8 1/4 x 3 1/2	8 5/8 lbs.	6	2.10
10308	45	7 1/4 x 8 x 4	11 1/2 lbs.	6	2.40
2308	45	7 1/8 x 8 x 2 5/8	7 3/8 lbs.	6	1.69
5308	45	5 7/8 x 4 1/2 x 2 1/2	2 1/2 lbs.	5	1.50
5156	22 1/2	3 7/8 x 4 1/2 x 2 1/8	1 1/2 lbs.	4	.95
4156	22 1/2	3 x 3 3/4 x 2 3/8	1 lb.	4	.85



2370

Burgess batteries come equipped with convenient plug-in connections. From start to finish, Burgess radio batteries are made of the finest materials obtainable and embody exclusive features of construction.



5360

RADIO "C" BATTERIES

Burgess No.	Volts	Size in Inches	Ship. Wgt.	Unit Pkg.	List Price
5360	4 1/2	8 x 2 5/8 x 1 1/2	5 oz.	4	.40
2370	4 1/2	3 5/8 x 4 x 1 3/8	1 lb.	10	.40
5540	7 1/2	3 1/8 x 4 x 7/8	9 oz.	4	.65
B5P	7 1/2	3 1/8 x 4 x 1 3/8	13 oz.	4	.65

Burgess "B" and "C" Batteries are available with Fahnestock or plug-in connections. Be sure to specify type wanted when ordering.

BURGESS "POWER HOUSE" Three-volt "A" Packs



20F2

Burgess "Power House" "A" Batteries are scientifically designed for use with two-volt tubes. They are economical, convenient, and reliable. There is no recharging, servicing, or filling with water—no dangerous liquids to spill. Equipped with plug-in socket and adapter. Finishes harmonize with home furnishings. It is necessary to use a resistor to step down the voltage to the required two volts.

20F2—A standard size "A" pack, made of 40 individually tested and selected cells, assembled in a rugged unit and enclosed in a durable cover. Height, 6 1/8"; width, 11 1/2"; depth, 3 1/8". Weight, 13 3/4 lbs. List Price \$3.40

22F2—A special flat-type three-volt "A". Height, 8 1/2"; width, 15 1/8"; depth, 2 3/8". Weight, 15 1/2 lbs. List Price \$3.95

40F2—A heavy-duty "A" made of eighty cells, recommended for current drains of 0.5 ampere or more. Height, 6 5/8"; width, 11 1/8"; depth, 8 3/4". Weight, 20 3/4 lbs. List Price \$7.00

BURGESS "B AND C" PLUG-IN BATTERIES

Designed to fit Philco, Crosley, and Grunow two-volt receivers. Ruggedly built, using selected high-test cells. Finishes harmonize with home furnishings.

G90D6—Equipped with seven-hole socket to fit Philco Models 33, 36, 38A, 623, 643, etc. Height, 13 7/8"; width, 9 1/4"; depth, 7 1/4". Weight, 42 lbs. List Price \$7.50

F90D6—A heavy-duty pack for above models of Philco. For improved economy the super-heavy-duty No. G90D6 is recommended. Height, 13 3/4"; width, 8 1/2"; depth, 7 1/8". Weight, 37 1/2 lbs. List Price \$7.25

G90D8—Equipped with eight-hole socket to fit Philco Models 31, 34A, 39, 39A. Height, 13 7/8"; width, 9 1/4"; depth, 7 1/4". Weight, 42 1/2 lbs. List Price \$7.50

I0908—Equipped with five-hole socket to fit Crosley receivers and Grunow Models 502 and 503. Height, 12"; width, 8 1/2"; depth, 8 1/4". Weight, 37 3/4 lbs. List Price \$7.95



G90D6

|||||BURGESS|||||

"A" AND "B" BATTERIES

FOR PORTABLE SETS

Burgess Portable Batteries are the choice of experts in many fields. Built to rigid specifications, using only high test, selected cells—protected by "Chrome", the preservative which prevents deterioration while not in use. Made in all types to fit all needs. Listed here are some units for popular portable receivers.

PORTABLE "A" BATTERIES

Burgess "A" Batteries for portables are compact, rugged, and well-insulated. Designed to give long, dependable service.



4F

4F—Standard size plug-in 1½ volt portable "A". Height, 4 1/8"; width, 2 5/8"; depth, 2 5/8". Weight, 1 3/8 lbs.

List Price \$.50

4FL—1½ volt plug-in "A" of different dimensions. Height, 5 1/2"; width, 3 3/8"; depth, 1 7/8". Weight, 1 3/8 lbs. List Price \$.60

6F—A plug-in 1½ volt Super "A". Height, 4 1/2"; width, 3 1/8"; depth, 2 1/4". Weight, 2 1/4 lbs. List Price \$.75

2F—A 1½ volt midget plug-in "A" for camera-type portables. Height 4 3/8"; width, 2 5/8"; depth, 1 7/8". Weight 11 oz. List Price \$.40

F4P1—A portable plug-in 6-volt "A" for AC-DC sets. Socket accommodates special two-prong plug. Height, 4"; width, 2 5/8"; depth, 2 5/8". Weight, 1 3/8 lbs.

List Price \$.55

FX—A single cell 1½ volt "A" with spring-clip terminals for very small portable receivers. Diameter, 1 1/8"; length, 4 3/4". Weight 5 1/4 oz. List Price \$.15

8F—A portable heavy-duty 1½ volt "A". Recommended for greatest economy where size of cabinet will permit installation. Height, 5 5/8"; width, 3 1/8"; depth, 2 5/8". Weight, 2 5/8 lbs. List Price \$.95

2F4—A heavy-duty, 6-volt "A" Battery. Recommended for greater economy in AC-DC portables. Height, 5 5/8"; width, 3 3/8"; depth, 2 1/8". Weight, 2 1/8 lbs.

List Price \$1.00



8F

F4PIX—Same as F4P1 except for socket connection. Accommodates three-prong plug.

List Price \$.55

PORTABLE "B" BATTERIES

Burgess "B" Batteries are available in types to fit all popular makes of portable radio receivers. They are dependable, efficient, and economical.

B30—A standard size 45-volt plug-in portable "B". Equipped with duplex socket which fits either large or small 3-prong "B" Battery plugs. Height, 5 1/8"; width, 4 1/8"; depth, 2 3/8". Weight, 2 1/2 lbs. List Price \$1.50



B30

A30—A smaller size portable 45-volt "B". Equipped with duplex socket. Height, 4 1/2"; width, 3 1/2"; depth, 2 1/4". Weight, 1 1/2 lbs. List Price \$1.50

Z30—A very small plug-in 4-volt "B". Height, 4"; width, 3 1/8"; depth, 2 1/4". Weight, 1 1/8 lbs. List Price \$1.60

W30P1—A midget size 45-volt plug-in "B". Height, 3 1/8"; width, 2 1/8"; depth, 1 3/8". Weight, 11 oz. List Price \$2.15

W40—A midget 60-volt "B" especially designed for extremely small, camera-type portables. Height, 5 3/8"; width, 3"; depth, 1 1/4". Weight, 15 oz. List Price \$2.25

W34—A midget "B" especially designed for camera-type portables. Height, 4 1/4"; width, 3"; depth, 1 3/8". Weight, 13 oz.

List Price \$1.95

W20P1—A midget "B" for camera-type portables. Height, 4 1/4"; width, 1 3/8"; depth, 1 3/8". Weight, 9 oz. List Price \$1.25



M30

M30—Smaller, lighter 45-volt "B" Battery weighs only 1 lb. 10 oz. Size, 5 5/8" x 3 3/8" x 1 7/8".

List Price \$1.50



5DA60

COMBINATION "A AND B" PACKS

For use on radios designed to operate from a single pack.

6TA60—1½ volt "A" and 90-volt "B". Size, 4 7/8" x 10" x 2 1/4". Weight, 4 3/4 lbs. List Price \$3.50

5DA60—1½ volt "A" and 90-volt "B". Size, 6 7/8" x 5 5/8" x 2 1/8". List Price \$3.40

4TA60—1½ volt "A" and 90-volt "B". Size, 4 1/4" x 8 1/8" x 2 1/8". List Price \$3.50

4FA60—1½ volt "A" and 90-volt "B". Size, 4 3/8" x 7" x 3 1/2". List Price \$3.25

6FA60—1½ volt "A" and 90-volt "B". Size, 6 1/4" x 11 1/8" x 1 5/8". List Price \$3.50

2GA60—1½ volt "A" and 90-volt "B". Size, 4 7/8" x 9 1/2" x 2 1/4". List Price \$2.90

4GA42—1½ volt "A" and 63-volt "B". Size, 4 3/4" x 9" x 2". List Price \$2.60

F4A41—6-volt "A" and 61 1/2-volt "B". Size, 4 7/8" x 9 5/8" x 2 3/8". List Price \$2.50

F4B60—6-volt "A" and 90-volt "B". Size, 5" x 10 5/8" x 2 3/4". List Price \$3.55

G4B50—6-volt "A" and 75-volt "B". Size, 4 1/2" x 12 3/8" x 2 1/8". List Price \$3.05

G4B60—6-volt "A" and 90-volt "B". Size, 5" x 10 3/4" x 2 1/8". List Price \$3.50

2F4B60—6-volt "A" and 90-volt "B". Size, 4 1/8" x 10 1/8" x 4 1/8". List Price \$3.95

D4A60—6-volt "A" and 90-volt "B". Size, 6 1/8" x 5 1/2" x 2 5/8". List Price \$3.40

KITS FOR PORTABLES

For dealer convenience, kits of portable batteries are available in four types:

230—Contains 2 M30 "Multi-ply" "B" Batteries and 1 No. 2F4L 6-volt "A".

Weight, 6 lbs. 5 oz. List Price \$4.00

330—Contains 2 M30 "Multiply" "B" Batteries and 2 G3 4 1/2-volt "A" Batteries.

Weight, 5 lbs. 11 oz. List Price \$3.90

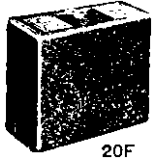
430—Containing one No. 4F and two No. B30 batteries. Weight 7 1/2 lbs. List Price \$3.50

830—Containing one No. 8F and two No. B30 batteries. Weight 9 lbs. List Price \$3.95

■■■■■■■■■■■■■■■■■■■■■ **BURGESS** ■■■■■■■■■■■■■■■■■■■■■

BATTERIES FOR 1½ VOLT FARM RADIOS

"A" BATTERIES



Designed for long life, economical service, and dependable performance. Finishes harmonize with home furnishings.

20F—A standard size 1½ volt plug-in "A" pack designed to give at least 1000 hours of service when used intermittently at 0.2 ampere to an end point of 0.9 volts. Height, 7¼"; width, 7-11/16"; depth, 2-11/16". Weight 7¼ lbs.....List Price \$1.85

19G—A heavy-duty plug-in "A" intended for use on Philco 1½ volt receivers. Equals the service hours provided by the D60 "B" Battery. Height, 7-3/16"; width, 5⅝"; depth, 4-9/16". Weight, 7½ lbs.....List Price \$1.95

16G—A 1½ volt plug-in "A" for use on some models of Philco where a battery with inclined-side construction is required. For greater economy, the No. 19G is recommended. Height, 7-3/16"; width, 5-5/16"; depth, 4⅞". Weight, 6½ lbs.

List Price \$1.95



45 AND 90 VOLT "B" BATTERIES



Burgess "B" Batteries are composed of individually tested and selected cells assembled into a compact unit. "Chrome" is used to protect against power loss while standing idle, either in storage or between periods of use.

D60—A 90-volt "B" Battery designed especially for 1½ volt Philco receivers. Height, 8⅞"; width, 13⅝"; depth, 3-1/16". Weight, 15½ lbs.

List Price \$3.35

2308—A 45-volt "B" recommended for use on receivers designed to operate from two "B"s and one 1½ volt "A". Height, 7⅞"; width, 8"; depth, 2⅞". Weight, 7⅞ lbs.....List Price \$1.69

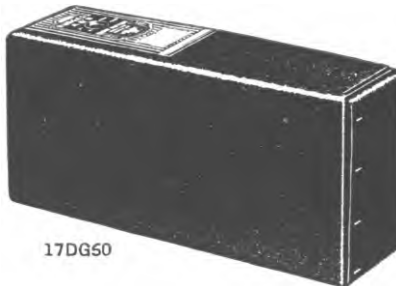
"A" AND "B" COMBINATION PACKS

These packs are designed to give uniformly long service on farm radios. Cells are "Chrome" protected and effectively insulated. Finishes harmonize with home furnishings.

17GD60—A combination 1½ volt "A" and 90 volt "B" for sets equipped with four-prong plug. Height, 7-3/16"; width, 15¾"; depth, 4⅞". Weight, 22½ lbs.

List Price \$5.00

3G6D60—Nine-volt "A" and 90-volt "B" Battery. Size 8⅞" x 13-15/16" x 4¼".....List Price \$5.65



No. 398—Six-volt "A" and 90-volt "B" Battery. Size, 8¾" x 15-15/16" x 4⅝".....List Price \$6.50

18GD60—A combination pack equipped with eight-hole socket. Height, 12½"; width, 5⅞"; depth, 6-15/16". Weight, 22¾ lbs.

List Price \$5.10

SPECIAL PURPOSE PORTABLE BATTERIES

Burgess special purpose batteries have an established reputation for dependability and service. A few of the most popular are shown or listed here. Added information will be furnished on request.



Z30N

"B" BATTERIES

Z30N—A new improved midget "B" Battery. Insulated screw terminals furnish taps at —, +22½ and +45 volts. Overall height, 4-15/16"; width, 3"; depth 1⅞". Weight, 1¼ lbs.....List Price \$1.70

Z30NX—Same as Z30N in dimensions, voltage taps, and weight. Uses special heavy-duty type cells. List Price \$2.20

W30BPX—Extremely small 45-volt "B" Battery. Used in personal transceivers, hearing aids, etc. Binding posts with insulated knobs at — and +45 volts. Overall height, 4-1/16"; width, 3"; depth, 1¼". Weight, 11 oz.....List Price \$2.55

W30BP—Similar to the W30BPX in dimensions and weight. Screw terminals with brass knurled nuts at —, +22½ and +45 volts.

List Price \$2.45 **W30BPX**



44

"A" BATTERIES

44—A special 1½ volt dry cell used extensively in microphones, portable radios, and laboratory instruments. Screw taps at — and +1½ volts. Overall height, 4⅜"; diameter, 1⅞". Weight, 10 oz.....List Price \$0.68

2FBP—A small 1½ volt "A" equipped with screw taps and brass knurled nuts. Overall height, 4-7/16"; width, 2⅞"; depth, 1-5/16". Weight, 12 oz.....List Price \$0.50

F2BP—A three-volt unit similar to the 2FBP except for voltage and insulated junior knobs at — and +3 volts.....List Price \$0.50



2FBP

2F2H—A special three-volt portable "A" Battery with screw type terminals equipped with junior insulated knobs at — and +3 volts. Overall height, 4⅞"; width, 2⅞"; depth, 2⅞". Weight, 1⅞ lbs.....List Price \$0.60

|||||BURGESS|||||

IGNITION BATTERIES

LITTLE-SIX AND LITTLE UNIPLEX

The Burgess Little-Six is designed to replace the old No. 6 cell, giving 12% greater zinc area and yet saving 40% in weight and 30% in space. Made of four high-capacity cells, featuring "Chrome" protection, and will maintain higher working voltage than the obsolete No. 6 cell.



4FH

No. 4FH—Little-Six, 1½ volts, replaces one round No. 6. Capacity rating is 40 watt hours under typical service on ignition systems, in lanterns, instruments, and general service.



No. 4F4H—Uni-plex 6-volt battery is assembled in a rugged waterproof metal container. Rated capacity is 160 watt hours.

The Twin-Six, is, in effect, two Little-Sixes wired in series to deliver three volts. The 4½-volt Tri-Six is equal to three Little-Sixes. The Little-Six is also made in a radio "A" type.



4F2H

The Little-Uniplex is built in a rugged metal container.

Nos. 4F5H and 4F6H are 7½ and 9-volt batteries respectively, each likewise assembled in metal containers.

Burgess No.	Type	Voltage	Terminals	List Price
4FH Little-Six	Ignition	1 ½	Screw terminal or spring clip	\$.38
4F2H Twin-Six	Ignition	3	Spring Clip	.75
4F3H Tri-Six	Ignition	4 ½	Spring Clip	1.30
4F4H Little-Uniplex	Ignition	6	Screw terminal	1.85
4F5H Little-Uniplex	Ignition	7 ½	Screw terminal	2.35
4F6H Little-Uniquex	Ignition	9	Screw terminal	2.90
4FA Little-Six	Radio	1 ½	Screw terminal	.45

UNI-CEL FLASHLIGHT BATTERIES

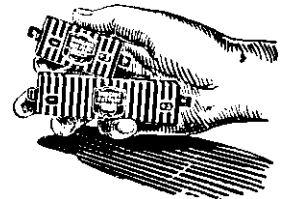


Burgess Uni-Cels are known for their dependability, long life and uniformity. Seamless drawn zinc cans and Chrome protection are outstanding features. Available in four sizes:

No.	Description	List, Each
No. 1	Baby Tubular Cell	\$.10
No. 2	Standard Tubular Cell	.10
No. 4	SnapLite Refill Cell	.05
No. Z	Penlight Cell	.05
No. Z2	Two cell Penlight Battery	.10

MODEL AIRCRAFT

Special ignition batteries for airplane motors. Used extensively and thoroughly proved. Recommended for lighter weight and ease of installation. Spring clip terminals and moisture - resistant construction.



2Z2SC	Three volts, weight, 2¾ oz. Size, 3⅞" overall length x 1⅜" square	List Price \$0.50
4Z2SC	A larger 3 volt battery. Size 1⅜" x 1⅜" x 5⅝". Weight 4¾ oz.	List Price \$0.70
4Z3SC	Four-and-one-half volts, weight 6¾ oz. Size, 6⅝" overall length x 1⅜" square	List Price \$1.30

ADAPTER PLUGS and RESISTOR

Cat. No.	Type	Used With	Cat. No.	Type	Used With
626	3 prong "B"	45 volt "B" Batteries	120	4 prong "A & B"	No. 17GD60 & 6TA60 Batteries
612	3 prong "C"	4½ volt "C" Batteries	2793	2 prong 6 v. "A"	F4P1 & 2F4 Batteries
596	5 prong "C"	22½ volt "C" Batteries	M64	4 prong "A & B"	No. 2F4B60 Battery
200	2 prong "A"	3 volt "A" Batteries	All Plugs, list.....\$.05		
274	2 prong "A"	No. 20F & 4F Batteries	5903—Cable to adapt 17GD60 Battery to sets equipped with three plugs. List.....\$.30		
273	3 prong "B"	No. D60 & B30 Batteries			

Mueller Electric Co.

CLEVELAND, OHIO

MUELLER BATTERY AND TEST CLIPS

U.S. PATENTS: 1,521,903; 1,686,842; 1,779,442; 1,965,151; 1,994,251; 1,999,613

For use in making quick, temporary electrical connections. Packed 10 in a box, half marked + half plain to indicate polarity. Screw connections



No. 45 PEE WEE

A very small test clip for radio, ignition, meter and similar work. 1 1/2" long. Jaw spread 3/8". Steel, bright finish.

EACH NET \$0.05 LOTS OF 10 \$0.03
Use No. 47 Insulator



No. 48-B TEST AND BATTERY CLIP

A small test and battery clip for radio use and general testing purposes. 2" long. Jaw spread 3/8". Steel, bright finish.

EACH NET \$0.05 LOTS OF 10 \$0.0325
No. 48C—Solid Copper. Same size as 48-B.
EACH NET \$0.10 LOTS OF 10 \$0.07
Use No. 49 Insulator for Clips 48-B and 48-C.



No. 27

A high grade test clip with meshing teeth on three sides of jaws. For laboratory and shop test work. 2 1/2" long. Jaw spread 3/8". Steel, bright finish.

EACH NET \$0.10 LOTS OF 10 \$0.07
No. 27-C—Solid copper. Same size as No. 27.
EACH NET \$0.17 LOTS OF 10 \$0.12
Use No. 29 Insulator for clips 27 and 27-C.



No. 24-A

A medium sized battery clip. Stands erect on battery post. Lead coated, copper shunt protects spring. 2 3/4" long. Jaw spread 1". Steel, lead plated.

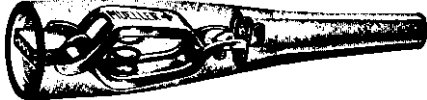
EACH NET \$0.10 LOTS OF 10 \$0.06
No. 24—Solid copper. Same size as No. 24-A.
EACH NET \$0.20 LOTS OF 10 \$0.14
Use No. 26 Insulator for Clips 24-A and 24.

LARGER SIZES OF CLIPS

	Each Net	Lots of 10
No. 21-A—Heavy Duty Steel, lead plated, 4" long	\$0.16	\$0.11
No. 11A—100 Amp. Steel, lead plated. 6" long	0.60	0.42
No. 11—200 Amp. Solid copper. 6" long	1.00	0.70
No. 33—300 Amp. Solid copper. 7 3/4" long	1.80	1.25

(Above furnished with lug connections.)

RUBBER INSULATORS FOR CLIPS



A convenient protection against short circuit and electric shock. Packed 10 in a box, 5 red and 5 black to indicate polarity. Long tail prevents breakage of wire. Constructed so that clip is held in firmly.

Insulator No.	For Use with Clip No.	Each Net	Lots of 10
13	11, 11-A	\$0.52	\$0.36
23	21, 21-A	0.33	0.23
26	24, 24-A	0.18	0.12
29	27, 27-C	0.12	0.082
35	33	0.80	0.56
47	45, 45-C	0.08	0.0525
49	48-B, 48-C	0.09	0.06
87	85	0.05	0.03

CROCODILE CLIPS

U.S. Patent No. 1,999,613



No. 85 Clip with No. 87 Insulator



No. 85-T Clip

No. 85—A very small clip with slender, elongated jaws for getting into tight places in radio or electrical test work. Teeth really mesh. Screw connection. 2 3/8" long.

EACH NET \$0.06 LOTS OF 10 \$0.04

No. 85-T—New Crocodile "Tip-Clip"—equipped with standard phone tip on one jaw, otherwise same as No. 85. Ideal for use as a prod. for ordinary clip connections and for connections to insulated binding posts having non-removable heads.

EACH NET \$0.13 LOTS OF 10 \$0.09

Use No. 87 Insulators for either clip. Red and Black. Cover entire clip except nose. Protects against short and shock. Helps to distinguish leads.

Copyright by U. C. P., Inc.

ALLIGATOR CLIPS

No. 60—CONVENTIONAL TYPE

Accurately made, slim jaws, fine meshing teeth. Convenient, round thumb grip, barrel connection for banana plug. Equipped with small soldering lip. Strong spring with a hard bite. Bright, non-corrosive finish. 2" long.



EACH NET \$0.05 LOTS OF 10 \$0.35

No. 60-S—SCREW CONNECTION

Eliminates necessity for soldering. Otherwise same as No. 60.



EACH NET \$0.06 LOTS OF 10 \$0.04

No. 60-CS—NEW COPPER R.F. ALLIGATOR CLIP

Same as No. 60 except made of solid copper. Has phosphor bronze spring and brass screw connection. Ideal for R.F. work. Will not heat up in H.F. circuits. Bright, natural copper finish. 2" long.



EACH NET \$0.10 LOTS OF 10 \$0.07

No. 60-HS—STEEL ALLIGATOR CLIP WITH INSULATED HANDLE

Same as No. 60 except equipped with red and black insulating sleeves on end. Very convenient for distinguishing leads. Has screw connection also. Bright, attractive finish. 2 1/4" long.



EACH NET \$0.10 LOTS OF 10 \$0.07

No. 60-CHS—COPPER ALLIGATOR CLIP WITH INSULATED HANDLE

Same as No. 60-CS except equipped with red and black insulating sleeves on end. Entirely non-ferrous with brass screw connection, for R.F. work. 2 1/4" long.



EACH NET \$0.17 LOTS OF 10 \$0.12

WEE-PEE-WEE No. 88

Entirely Non-ferrous. Smaller Than Ever! An extremely small clip for fine testing in radio and electrical work. Light-Weight; thin-nosed; spring-temper phosphor bronze. Ideal for close-wound coils. 1 1/2" long; jaw spread 1/4".



EACH NET \$0.09 LOTS OF 10 \$0.06

No. 45-C SOLID COPPER TEST CLIP

Solid copper radio frequency test clip. Phosphor bronze spring, brass screw. Will not heat up in high frequency test work, entirely non-ferrous.



No. 45-C Clip No. 47 Insulator

EACH NET \$0.08 LOTS OF 10 \$0.055

Use No. 47 Insulator.

CLAMPIPE GROUND CLAMP

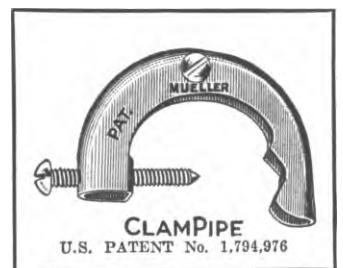
The exclusive patented feature of a U-shaped cross section in combination with a U-shaped clamp gives a rigidity and effectiveness to the ClamPipe that cannot be found in any other make.

The ClamPipe will not bend or lop over when applied to a pipe. The point of the large case hardened screw, cuts through rust, paint or corrosion into clean, fresh metal, insuring a good contact. The Clamp may be installed on a pipe lying flush against a wall. Will not spread open.

The best ground clamp value on the market. Applicable to pipe 3/8" to 1 3/8" outside diameter.

Packed 10 in a box

EACH NET \$0.08 LOTS OF 10 \$0.05



No. 58

Mueller Electric Co.

THE SNAPPER

A Long Insulated Test Clip and
A "Triple Threat" Radio Tool

U. S. Patent No. 2,074,324
No. 99—7" Long Insulated



The long tube is of insulating material and is fitted with spring contact jaws on the far end. The jaws are operated by a push of the thumb on the near end. Wire is quickly and easily connected in a hole in the insulator knob binding post on the near end.

May be used as (1) A "Deep Sea" Electric Test Clip—test contacts with ease, deep in the recesses of radio chassis with no danger of short circuits; (2) An Electric Contact Prod—clip jaws may be used to make quick prod contacts, or clip one Snapper on ground circuit and prod with another; (3) A Retriever—start small screws and nuts or pick up odds and ends that may accidentally be dropped into inaccessible places.

PRICE...\$0.65 EACH Dealers Wholesale Price, each...\$0.39 Net
Snappers are generally used in pairs—1 red and 1 black.

INSULATED GRID CLIP ASSEMBLY

One Universal Clip That Fits Them All
This assembly is made up of a Pee-Wee Clip with jaws specially constructed to give a firm grip on all sizes of grid caps, a rubber insulator over the clip, 10 inches of flexible, rubber-covered wire and a standard phone tip.

FEATURES: ● Will Never Weaken or Break ● Bull-Dog Grip—in either vertical or horizontal position, will not come off cap no matter how hard tube is pounded. ● Will Not Injure or Break Grid Cap—if clip itself is struck accidentally it will pull loose without damaging cap. ● Wire Will Not Pull Loose from Clip—soldered connection at both ends. ● Quick and Easy Application—fits all sizes of grid caps. No. 106—Insulated Grid Clip Assembly
EACH NET \$0.20 LOTS OF 10 \$0.13



U. S. Patents Nos.
1,779,442-1,965,151

RADIO CLIP KIT



No. 104

A handy and useful assortment of clips, ground clamps, insulators, etc. for the radio shop.

Have what you want when you want it. A real value in a convenient package. The 77 items cost much less when purchased in this kit than they would separately.

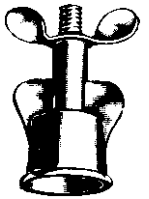
PRICE PER KIT.....\$6.67
Dealers wholesale price.....\$4.00 Net

BATTERY POST ADAPTER

For Making Non-Corrosive, Semi-Permanent
Connections to Storage Batteries

No. 103—Is simply pressed, not burned, on to battery post. The wire is quickly and easily connected under the thumb nut.

Made of non-corrosive antimonial lead. Ideal for use on battery operated home appliances.



No. 103

Packed 10 in a box

EACH NET.....\$0.15 LOTS OF 10.....\$0.10

BATTERY CHARGING JUMPERS



No. 89—MUELLER CLIP JUMPER

A complete jumper, ready to use. Two No. 24-A clips and 14" of rubber covered copper wire.

EACH NET.....\$0.20 LOTS OF 10.....\$0.15



No. 57—MUELLER TAP-TITE SPIKE JUMPER

Hard, pointed steel pins soldered to ends of wire and held firmly in lead coated steel jackets. Drive into battery posts.

EACH NET.....\$0.18 LOTS OF 10.....\$0.13



No. 38—MUELLER PRES-TITE JUMPER

Is simply pressed over battery posts. Made of non-corrosive, antimonial lead.

EACH NET.....\$0.20 LOTS OF 10.....\$0.15

BATTERY CARRIERS



No. 73—MUELLER "COCKEYED CARRIER"

No. 73—A rugged carrier with heavy, rubber covered strap which will stand plenty of abuse. To use, drop the end pieces over the battery posts and lift up. This cocks the eyes and they grab hold. The heavier the battery the tighter the grip. 12" long. Packed 10 in a box.

EACH NET.....\$0.35 LOTS OF 10.....\$0.25

NEW EXTRA LONG CARRIER

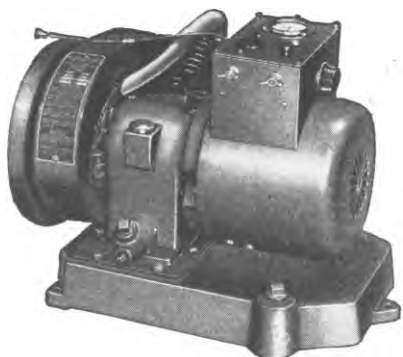
No. 73-EL—19" long. Ample length to take the new long batteries in some latest model cars. Same construction as No. 73. Packed 10 in a carton.

EACH NET.....\$0.45 LOTS OF 10.....\$0.30

Printed in U.S.A.

Pioneer

POWER SUPPLY DEVICES



THE NEW BLUE DIAMOND A.C. - D.C. GAS - ELECTRIC PLANT

Same as "Power Co." Electricity — Also Charges Batteries

Thousands of **Blue Diamond** Plants are now in use throughout the world. The **NEW Blue Diamond** portable **TWO in ONE** Electric Plant is the outstanding value in A.C. plants, yet, this unit will also furnish an adequate supply of D.C. for charging batteries. The A.C. is 110 volts, 60 cycles, without a flicker, the same as furnished by power companies.

FEATURES—Capacity—300 watts, 110 volts A.C. 60 cycles, without a flicker, and from the same plant 200 watts, 6 volts D.C.; 250 watts, 12 volts D.C., or 325 watts, 32 volts D.C.—**Generator—**4-pole—direct connected on to crankshaft of engine (*no coupling*)—steel shell—all parts easily accessible by merely removing end cover.—**Engine—**4 cycle, single cylinder, air-cooled, ½ H.P. engine with mechanical governor to maintain constant speed of 1800 R.P.M.—cast-iron fuel tank base—ignition shielding.—**Starting—**All Models—push-button starting—also auxiliary rope-pull starter (except type DD110).—**Filter—**If the plant is used to operate a radio, the filter is recommended.—**Fuel Consumption—**Operates 12 to 16 hours on one gallon of gasoline.—Base tank one gallon capacity.—**Compact Design—**Overall dimensions, 19½" long, 14" high, 14" wide, making the Blue Diamond the ideal plant where space is valuable.—**Remote Control Type—**Push-button starting and stopping from a remote point—built into the plant, not furnished separately.

NEW BLUE DIAMOND A.C. - D.C. PLANT

Type	Description	Output Watts A.C.* or D.C.	Approx. Net Weight	Code	List Price
BD6	110 Volts A.C.; or D.C. for charging 6-volt batteries	300 200	106 lbs.	BLAZE	\$ 79.95
BDR6	110 Volts A.C.; or D.C. for charging 6-volt batteries, with remote control, ammeter and voltmeter in control box	300 200	110 lbs.	BLAST	104.95
BD12	110 Volts A.C.; or D.C. for charging 12-volt batteries	300 250	106 lbs.	BLURB	87.45
BDR12	110 Volts A.C.; or D.C. for charging 12-volt batteries, with remote control, ammeter and voltmeter in control box	300 250	110 lbs.	BLOOM	112.45
BD32	110 Volts A.C.; or D.C. for charging 32-volt batteries	300 325	106 lbs.	BLACH	91.95
BDR32	110 Volts A.C.; or D.C. for charging 32-volt batteries, with remote control, ammeter and voltmeter in control box	300 325	110 lbs.	BLINT	116.95

*At 1.0 power factor.

Reostat shown in illustration furnished only on type DD6-12.

These A.C.-D.C. Plants furnish either A.C. or D.C. (not designed to develop full rating of both at same time).

NEW BLUE DIAMOND D.C. PLANT

DD6-12	6 or 12 Volts D.C.—6 volts 175 watts, 12 volts 350 watts	108 lbs.	BLETH	\$59.95
DD32	32 Volts D.C.—350 watts	108 lbs.	BLEAK	69.95
DD-110	110 Volts D.C.; 350 watts; rope starter only	108 lbs.	BLEEN	73.95
BDF	Filter (for either "BD" or "DD" series)	2 lbs.	BLIGE	6.00

The "Pincor" Champion Gas-Electric Plant S-6 (NACRE) for charging 6-volt batteries; S-12 (NAMAZ) for charging 12-volt batteries; 175 watts; 51 lbs. List Price \$49.95

ANNOUNCING THE NEW "PINCOR" GOLD CROWN HEAVY DUTY GAS - ELECTRIC PLANTS



The **NEW 'Pincor' GOLD CROWN** Gas-Electric Plants provide a full line of units that fill every heavy-duty requirement. They answer the ever-increasing demand for generators of greater output with attending low first cost, economical operation and minimum space requirements. The **NEW 'Gold Crown'** is the result of many years of developmental work and tests by pioneer Gen-E-Motor Corporation engineers.

FEATURES—Capacity—600, 1000 or 1500 watts.—All voltages: 32 volts, 110 volts A.C. or D.C. or 220 volts A.C. or D.C. The 32-volt D.C. plants are designed for use with 32-volt storage batteries, the average charging rate (depending on condition of battery) 600-watt plant, 18 amperes; 1000-watt plant, 25 amperes; 1500-watt plant, 38 amperes. The 110-volt D.C. and A.C. plants are for direct connection to load.
Generator—4-pole—self-excited—mounted on the crankshaft of engine (**NO COUPLING**)—Large fan mounted on the armature assures cool operation and prevents the accumulation of dust or dirt.—All windings thoroughly impregnated with insulating compound.—Large commutator and collector rings.—Accurately balanced armature.—1800 R.P.M.—All parts easily accessible by merely removing end cover.—**Engine—**4-cycle, single cylinder I. head, air cooled—High-tension moisture-proof flywheel Magneto.—Pump and splash lubrication.—Float feed, adjustable Carburetor.—Flyball type, adjustable, full-enclosed Governor, operating in oil.—S. A. E. ball-bearing Bearings.—One-piece, special alloy Crank and Cam Gear.—1045 S. A. E. steel, heat-treated Crankshaft, counterweights drop-forged integral with shaft.—Alloy steel, completely enclosed Valves.—Aluminum alloy Connecting Rod, large split bearing on crank pin.—Aluminum alloy Piston, fitted with two compression rings and one oil control ring.—Oil bath Air Cleaner.—Heat resisting enamel finish.—**600-Watt Plant Engine—**1 h.p.; bore 2¼"; stroke 2¼"; fuel tank capacity 1 gallon for approximately 7 hours' operation at rated load.—**1000-Watt Plant Engine—**2 h.p.; bore 2¾"; stroke 2¾"; fuel tank capacity 1 gallon for approximately 4 to 5 hours' operation at rated load.—**1500-Watt Plant Engine—**3 h.p.; bore 3¼"; stroke 3¼"; fuel tank capacity 1½ gallon, approximately 3 hours operation on 1 gallon at rated load.—**Starting—**Push-button electric starting is standard on the 32-volt D.C. and 110-volt A.C. plants (12-volt battery required for electric starting of 110-volt A.C. plant) also auxiliary rope-pull starter. The 110-volt D.C. type has rope-pull starter in 600 and 1000 watt and hand-crank starter in 1500 watt.—**Remote Control Type—**Push-button starting and stopping from a remote point an optional extra feature available on the 110-volt A.C. plants. The Remote Control feature is built into the plant—not furnished separately. Operates from a 12-volt battery which is included in the price of the Remote Control feature.—**Filter and Shielding—**For operating a radio, the filter and ignition shielding should be used. (Optional extra equipment.)

NEW "GOLD CROWN" AIR COOLED PLANTS

Type No.	Code	Voltage	Capacity	DIMENSIONS			Approx. Net Weight	List Price
				Length	Width	Height		
BA-60	SABOT	110 Volts A.C.	600 Watts	20¾"	18¾"	20"	140 lbs.	\$179.50
BA-100	SABER	110 Volts A.C.	1000 Watts	24¼"	17½"	21¾"	170 lbs.	259.50
BA-150	SABLE	110 Volts A.C.	1500 Watts	32½"	29"	24½"	275 lbs.	315.00
CC-60	SAGUM	for 32-volt batteries	600 Watts	20¾"	18¾"	20"	140 lbs.	157.50
CC-100	SALGA	for 32-volt batteries	1000 Watts	24¼"	19½"	21¾"	170 lbs.	185.00
CC-150	SALAL	for 32-volt batteries	1500 Watts	32½"	29"	24½"	275 lbs.	287.50
DC-60	SAHIB	110 Volts D.C.	600 Watts	20¾"	18¾"	20"	140 lbs.	157.50
DC-100	SABAN	110 Volts D.C.	1000 Watts	24¼"	19½"	21¾"	170 lbs.	185.00
DC-150	SALIS	110 Volts D.C.	1500 Watts	32½"	29"	24½"	275 lbs.	287.50
BT-12	STATT	12-Volt Starting Battery for 110-Volt A.C. Plants ("BA" Series)					60 lbs.	14.50

Remote Control Feature—for 600 and 1000-watt plant add \$42.00 to list price of standard plant. For 1500-watt plant add \$47.50 to list price of standard plant. This includes a 12-volt starting battery. For **REMOTE CONTROL** use code word "GOMAT" in addition to code word for standard plant.
Filter and Shielding—\$15.00 list—use code word "GORAD" in addition to code word for the plant.
For 220 volts D.C. or A.C. (60 cycle) add 5% to the list price of 110-volt plant—For 220 volts D.C. use code word "DID0Z" in addition to code word for 110-volt plant—For 220 volts A.C. (60 cycles) use code word "ACTTO" in addition to code word for 110-volt plant. For 110-volt 50-cycle output add 15% to the list price of 60-cycle plant.—Use code word "FICY" in addition to code word for 110-volt, 60-cycle unit. NOTE: The maximum wattage for 50 cycles of 1500-watt plant (BA-150) is 1200 watts—BA-100 is 700 watts—BA-60 is 400 watts.

"PINCOR" PRODUCTS Manufactured by Pioneer Gen-E-Motor Corporation

Pioneer

POWER SUPPLY DEVICES

PIONEER ROTARY CONVERTERS



Converts 6, 12, 32, 110, 220 Volts Direct Current to 110 Volts Alternating Current

Rotary converters with and without filters for operation of: Public Address Systems, Power Amplifiers, Radio Receivers, Electric Phonographs, A. C. Motors, Neon Signs, and any other similar apparatus requiring a reliable source of A. C.

Here's a PIONEER double-wound rotary converter of dynamotor construction with separate D. C. and A. C. windings. Less heating and longer brush life result from the engineered PIONEER converter design! The double-wound converter results in more efficient commutation than is obtainable with "tapped" winding.

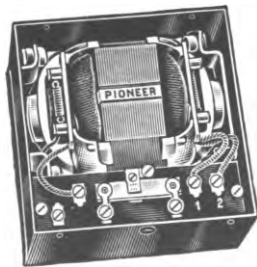
Converters are rated in volt amperes—the Power Factor of the load determines the size of converter to be used—all PIONEER converters are engineered for the apparatus with which they are to be used.

CODE	Type No.	INPUT		OUTPUT		LIST PRICE	
		D.C. Volt.	D.C. Current	A.C. Volt.	Volt-Amps	Less Filter	With Filter
Daily	640	6	13.3 amps	110	40	\$48.50	\$56.50
Dance	660	6	19.	110	60	61.00	69.00
Darky	1240	12	7.5	110	40	36.50	44.00
Daunt	1280	12	11.8	110	80	44.50	52.00
Death	1212	12	17.5	110	120	52.00	60.00
Debar	1216	12	20.0	110	160	72.50	81.00
Debit	3240	32	2.78	110	40	36.00	42.00
Decay	3280	32	4.7	110	80	37.50	43.00
Defer	3211	32	5.6	110	110	39.00	45.00
Deity	3215	32	7.8	110	150	43.00	51.00
Delta	3220	32	10.0	110	200	48.00	56.00
Delve	3225	32	13.0	110	250	53.00	61.00
Demos	3230	32	15.0	110	300	61.00	71.00
Denim	1140	110	0.8	110	40	36.00	42.50
Dense	1180	110	1.30	110	80	37.50	43.00
Depot	1111	110	1.78	110	110	39.00	45.50
Depth	1115	110	2.23	110	150	43.00	50.50
Derby	1120	110	2.80	110	200	48.00	56.00
Derma	1125	110	3.55	110	250	53.00	61.00
Deter	1130	110	3.85	110	300	61.00	71.00

All Pioneer 6 and 12-volt converters operate on ball bearings. Can be supplied on other units—add \$3.50 to the list price.

PIONEER GEN-E-MOTOR Auto "B" Eliminators

New Compact Models



Complete with built-in filter units, for use as battery eliminators for auto receivers using "B" batteries, and for installation in auto sets where it is desired to remove the filter system used with the old vibrator unit. The entire unit is housed in a sturdy metal case measuring 2 1/8" x 5 1/8" x 5 1/8". The Gen-E-Motor is floated in rubber, assuring complete freedom from vibration. The armature is supported by two sets of ball bearings. Shpg. Wt. 7 1/4 lbs.

Code	No.	Output Volts	M.A.	Battery Drain	List Price
Baggy	5135-A	135	30	1.80	\$19.50
Balmy	5180-A	180	30	2.50	19.50
Balsa	5200-A	200	40	3.15	19.50
Bandy	5225	225	50	4.3	19.50
Banjo	5250	250	50	4.7	19.50

The above units may be furnished with intermediate tap for 50c additional. Use code word "TAPPO" in addition to code word for standard unit. Shipping weight 7 1/4 lbs.

Model "H" For Amplifiers and Sound Trucks

Code	No.	Output Volts	M.A.	Battery Drain	List Price
Basic	7565	265	75	7.75	\$34.00
Baste	7300	300	100	9.5	37.50

PIONEER DYNAMOTORS



Use Pioneer "Silver Band" Dynamotors for Better Performance in Sound Systems, Police Units, Aircraft, Marine and Broadcast Service.

FEATURES

Nothing to adjust!
No ripple or voltage variation.
Compact, light weight, and completely enclosed in dust-tight case.
Welded steel ring construction—end brackets of tough, high quality malleable iron.
Armature, dynamically balanced, runs on grease-sealed bearings insures quiet, smooth operation.

Code	Type No.	Output		Input Volts A.	Wt. Lbs.	SIZE			List Price
		Volts	M.A.			Lgth. Ins.	Width Ins.	Hgt. Ins.	
Gavel	E1W272	250	50	6	4.7	7 1/2	5 3/8	4 3/8	\$35.00
Gayal	E2W353	250	50	6	4.8	8 1/4	6 1/8	4 3/8	40.00
Galea	E1W339	250	100	6	7.5	7 1/2	5 3/8	4 3/8	35.00
Gecko	E2W397	250	150	6	13.2	9 1/4	6 1/8	4 3/8	40.00
Genet	E2W351	300	100	6	9.7	9 1/4	6 1/8	4 3/8	40.00
Gatch	E2W243	300	150	6	14.0	9 1/4	6 1/8	4 3/8	40.00
Genus	E2W256	350	150	6	15.2	9 1/4	6 1/8	4 3/8	42.00
Giant	E2W438	400	125	6	14.2	9 1/4	6 1/8	4 3/8	42.00
Gaily	E3W413	500	100	6	15.0	11	6 3/8	4 3/8	47.50
Girth	RA0W158	300	200	6	18.0	16	8	5 3/4	75.00
Given	RA1W201	400	225	6	25.0	17 1/2	8 3/8	5 3/4	82.50
Glade	RA1W189	500	200	6	27.0	17 1/2	8 3/8	5 3/4	85.00
Glair	RA1W331	600	200	6	31.0	17 1/2	8 3/8	5 3/4	87.50
Grate	RA1W549	750	125	6	25.0	17 1/2	8 3/8	5 3/4	90.00
Glint	RA3W550	750	250	12	24.0	23 1/4	9 1/4	5 3/4	97.50
Gonad	RA2W475	1000	150	12	20.0	19 1/4	8 3/8	5 3/4	105.00
Grist	RA3W534	1000	250	12	32.0	23 3/4	9 1/4	5 3/4	115.00

All units may be furnished for any D.C. input other than listed above at an addition of 15% to list price. Add "X" to code word and follow with input voltage required.

Standard Filter for "E" units... \$19.50
Transient Filter for "RA" units... \$25.00
"EA" units, using aluminum wherever possible to reduce weight \$10.00 additional to list price of corresponding "E" unit.

Most "RA" units may be furnished in "DA" frame at 15% less than "RA" list. Prices Slightly Higher in West and South

TYPE T ROTARY CONVERTER



FEATURES

4-pole construction, 1800 R.P.M., ball bearings, cast-iron end brackets, windings thoroughly impregnated with insulating compound, large D.C. commutator, specially designed brush holders assuring correct commutation. Cool operation. Quiet. Available with or without filter. Prices on request.

MODEL JW-GEN-E-MOTOR . WITHOUT FILTER

It is being used with remarkable success to replace vibrators in auto radio receivers—as it can be easily installed usually within the set itself. It is excellent for this service because it is extremely compact (1 1/8" x 5 1/8" x 2 3/8") and can be used without circuit alterations—complete instructions included.



Supplies a uniform voltage output, eliminating noisy or weak reception

Code	No.	Output Volts	M.A.	Battery Drain	List Price
Abate	JW-18	180	30	2.5	\$14.50
Abbey	JW-20	200	40	3.15	14.50
Abhor	JW-25	225	50	4.3	14.50
Abide	JW-50	250	50	4.7	14.50

For 32-Volt Radios

About	JW-32	210	45	.7	\$18.00
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Shipping weight, each 6 lbs.



Illustrating all type ATR Shaverpacks except Types 6 and 12.

● ATR SHAVERPACKS

Model
SPA

Specially Designed for Operating A. C. Razors from 6, 12, 32, 110, and 220 volt D. C. Lines. May Also be Used for Other Small A. C. Devices.

ATR Shaverpacks are midget D.C.-A.C. Inverters designed especially for the operation of A. C. razors in the car (6-volt type), on buses or aeroplanes (12-volt type), on trains (32-volt type), on boats, in hotels, and D. C. districts (110- and 220-volt types). They are ideally suitable for traveling salesmen, sportsmen, and all owners of electric shavers. By the use of ATR Shaverpacks with standard A. C. razors, electric razor operation can be had anywhere! ATR Shaverpacks deliver 60 cycle A. C. current so necessary for electric razor operation and utilize a new ATR type of six contact Vibrator construction having four 3/16" diameter tungsten power contacts and two silver alloy driver contacts, which unit will give many years of satisfactory service and outlast the electric razor.



Illustrating Types 6 and 12 ATR Shaverpacks, fitted with receptacle (for dash mounting), which attaches direct to battery.

TYPE	Input D. C. volts	A.C. Output 60 cycles	Wattage Output	Code Word	List Price
6.....	6	110 volts	15 watts	ASPAC	\$6.95
12.....	12	110	15	BSPAD	6.95
32.....	32	110	15	CSPA E	7.95
110.....	110	110	15	DSPAF	7.95
220.....	220	110	15	ESPAG	7.95

Radio frequency interference not suppressed.

The above Shaverpack types are also available with an output voltage of 220 volts A. C. at prices 10% higher. In ordering, specify "S" after the type number and substitute for the last letter in the code word "T"; that is, if a 110 volt D. C. Shaverpack having a 220 volt A. C. output is desired, this would be ordered as Type 110S covered by code word, "DSPAT". ATR Shaverpacks are housed in metal cabinets having an attractive black-wrinkled finish, which is standard. Ivory finishes are available on special order at 30c additional; all chromium-plated cabinets are available at a charge of \$1.00 additional. Dimensions, 4 1/4"x3 3/8"x2 1/2"; shipping weight, 3 lbs.

Replacement Vibrators for any of the above Shaverpack types, List Price, \$3.50; Exchange List Price, \$2.95. Be sure to mention the type number as well as model number when ordering.



Illustrating all ATR Low Power Inverters except Types 6 and 12.

● ATR Low Power INVERTERS

Model
LIA

For Operating Small A. C. Motors and Devices of Approximately 35 watts Consumption from 6, 12, 32, 110, and 220 volt D. C. Lines.

This line of ATR Low Power Inverters was specially brought out to meet the insistent demand for a good, low power, inexpensive portable Inverter for operating phonograph and other A. C. motors and a host of small A. C. devices from D. C. voltage sources. These Inverters operate at an efficiency in excess of 90% and are designed for operation of loads having a power factor as low as 60%. They are ruggedly built and powered by a special ATR six-contact plug-in Inverter Vibrator utilizing four 1/4" diameter tungsten power contacts and two silver alloy driver contacts.



Illustrating Types 6 and 12 Low Power Inverters only.

Type	Input D. C. volts	A.C. Output 60 cycles	Wattage		Code Word	List Price
			Maximum	Continuous		
6	6	110 volts	50	35	ALIAM	\$ 9.95
12	12	110	50	35	BLIAN	9.95
32	32	110	50	35	CLIAO	10.95
110	110	110	75	35	DLIAP	10.95
220	220	110	75	35	ELIAQ	10.95

Radio frequency interference not suppressed.

Any of the above type Low Power Inverters are available with 220 volt A. C. output at prices 10% higher. In ordering, specify "S" after the type number and substitute for the last letter in the code word "T"; that is, if a 110 volt D. C. Low Power Inverter having a 220 volt A. C. output is desired, this would be ordered as Type 110S covered by code word, "DLIAT". ATR Low Power Inverters are housed in a black-wrinkled finished metal cabinet.

Dimensions, 5 3/4"x4-3/16"x5 5/8"; shipping weight, 5 1/2 lbs.

Replacement Vibrators for any of the above Low Power Inverters, List Price, \$4.95; Exchange List Price, \$4.50. Be sure to mention the type number as well as model number when ordering.

● ATR STANDARD AND HEAVY DUTY

RADIO INVERTERS

Model RSA (Standard)
Model RHA (Heavy Duty)

Specially Designed for Operating Standard A. C. Radios, Radio-Phonograph Combinations, Public Address Systems, Television Sets, Amplifiers, Intercall Systems, and Radio Test Equipment from D. C. Voltages in Cars, on Farms, Trains, Boats, and in D. C. Districts.



Illustrating all Standard Type ATR Radio Inverters except Types 6 and 12. For Heavy Duty Styles—see cut below.

with four point voltage regulators, which make possible the correct output voltage for minimum to maximum loads and also help compensate for input voltages which are lower or higher than normal; the operating efficiency is in excess of 85%.

This group of ATR Inverters is especially recommended for use with standard A. C. radios, television sets, and radio equipment, being exceptionally well filtered to insure interference-free all-wave radio reception. With ATR Inverters, the need for special equipment is eliminated. They are designed for quiet, long-life radio operation. The standard models are equipped with an ATR ten-contact plug-in Inverter Vibrator of new design and construction having dual arms and utilizing eight 1/4" diameter tungsten power contacts and two silver alloy driver contacts, whereas, the heavy duty models are equipped with ATR twenty-contact plug-in Inverter Vibrators having sixteen 1/4" diameter tungsten power contacts and four silver alloy driver contacts, insuring increased long life and reliable service. These Inverters also come equipped

Type	Model	Input D.C. Volts	A.C. Output 60 Cycles	Output Wattage		Code Word	List Price
				Intermittent	Continuous		
6	RSA	6	110 volts	100	75	ARSAD	\$23.95
12	RSA	12	110	125	100	BRSAE	23.95
32	RSA	32	110	150	100	CRSAF	25.95
32B	RHA	32	110	200	180	DRHAG	35.00
50	RSA	50	110	150	100	ERSAH	28.00
90	RSA	90	110	200	150	FRSAI	28.00
110	RSA	110	110	250	150	GRSAJ	25.95
110A	RHA	110	110	325	225	HRHAK	35.00
110B	RHA	110	110	500	350	IRHAL	42.50
110C	RSA	110	110/220	250	150	JRSAM	32.50
110D	RSA	110/220	110/220	250	150	KRSAN	38.50
220	RSA	220	110	250	150	LRSAO	25.95
220A	RSA	220	110/220	250	150	MRSAP	35.00



Illustrating Types 6 and 12 Standard Radio and Industrial Inverters only.

Radio frequency interference completely suppressed. Any of the above type Inverters are available with 220 volt A. C. output at prices 10% higher. In ordering, specify "S" after the type number and substitute for the last letter in the code word "T"; that is, if a 110 volt D. C. Inverter having a 220 volt A. C. output is desired, this would be ordered as Type 110S covered by code word, "GRSAT". ATR Standard and Heavy Duty Radio Inverters are housed in at-

tractively finished brown-wrinkled metal cabinets. Dimensions of Standard Model Radio Inverters, 7 1/8"x8-3/16"x4 1/2"; Shipping weight, 16 lbs. Dimensions of Heavy Duty Model Radio Inverters, 7 1/8"x9 3/8"x6 1/4"; Shipping weight, 25 lbs. For correct replacement vibrator, consult Inverter Vibrator Guide.

● ATR STANDARD AND HEAVY DUTY

INDUSTRIAL INVERTERS

Model (Standard) ISM
Model (Heavy) IHM

For Operating A. C. Motors, Pin Ball Games, Electrical Testing Equipment, Coin Phonographs, and A. C. Electrical Appliances from D. C. Lines.



Illustrating Heavy Duty Models Radio and Industrial Inverters except types 6 and 12. Types 6 and 12 Industrial Inverters are illustrated by center cut above. Another style of Heavy Duty Industrial Inverter is that illustrated in the cut on page 5 covering ATR Custom Built Power Supplies.

These units are specially designed for all industrial and pin ball game applications as indicated, permitting the use of standard A. C. equipment on D. C. lines. These Inverters operate at an efficiency in excess of 80% and are carefully built and equipped to give the longest possible life and operating satisfaction. The Standard and Heavy Duty Industrial Inverters utilize ATR ten and twenty contact plug-in vibrators, respectively, and are also equipped with four point voltage regulators as fully described above. These Industrial Inverters are recommended for use with loads having power factors as low as 60%, and as low as 50% for the pin ball Inverters indicated. These Inverters should not be used with Neon signs.

Type	Model	Input D.C. volts	A.C. Output 60 cycles	Output Wattage		Code Word	List Price
				Intermittent	Continuous		
6	ISM	6	110 volts	100	75	AISMD	\$22.00
12	ISM	12	110	125	100	BISME	22.00
32	ISM	32	110	150	100	CISME	25.00
32P*	ISM	32	110	150	125	DISMF	29.95
32B	IHM	32	110	200	180	EIHMG	33.50
110	ISM	110	110	250	150	FISMH	25.00
110P*	ISM	110	110	250	150	GISMI	29.95
110A	IHM	110	110	325	225	HIHMJ	33.50
110B	IHM	110	110	500	350	IHMK	41.00
220	ISM	220	110	250	150	JISML	25.00
220P*	ISM	220	110	300	150	KISMM	29.95

Dimensions of Heavy Duty Industrial Inverters, 7 1/8"x9 3/8"x6 1/4"; shipping weight, 26 lbs. For correct replacement vibrator, consult Inverter Vibrator Guide.

*"P" Inverters are corrected for loads having power factors as low as 50% and are especially designed for pin ball games.

● ATR HEAVY DUTY VIBRATOR PACKS

Model
VPM



For Inverting Low Voltage D. C. to High Voltage D. C. for Operation of Portable Receivers and Transmitters, for Police, Aircraft, Amateur, and Commercial Uses, Public Address Systems, Amplifiers, and Scientific Apparatus.

Here is a complete line of Heavy Duty Vibrator Packs for operation on 6, 12, 32, 110, and 220 volts D. C. inverting same to an output of 325 volts D. C. at 125 milliamperes, adjustable in four steps as low as 250 volts D. C. at 50 milliamperes. ATR Vibrator Packs are available in two models: complete with audio filter and without audio filter. All models have built-in RF filters and come complete with rectifying tube and vibrator. The vibrator used is an ATR ten contact Inverter type having eight 1/4" diameter tungsten power contacts and two silver alloy driver contacts for longest life and utmost reliability. The efficiency is in excess of 55%.

Illustrating ATR Vibrator Pack complete without audio filter, Style A.

Type	Input Volts D.C.	Output		Without Audio Filter		With Audio Filter	
		Volts D.C.	Current ma.	Code Word	List Price	Code Word	List Price
6	6	325-250	125-50	AVPMD	\$19.50	FVPMI	\$27.00
12	12	325-250	125-50	BVPME	19.50	GVPMJ	27.00
32	32	325-250	125-50	CVPMF	25.00	HVPMK	32.50
110	110	325-250	125-50	DVPMG	25.00	IVPML	32.50
220	220	325-250	125-50	EVPMD	25.00	JVPMH	32.50

Style A—Attractively cadmium-plated finished as shown; dimensions 5 3/4" x 3 3/4" x 6 1/2"; shipping weight, 7 lbs.

Style B—Housed in an attractive black-wrinkled metal cabinet; dimensions, 7 3/4" x 4" x 6 3/4"; shipping weight 11 1/2 lbs.

ATR Vibrator Pack Replacement Vibrators, any type, List Price, \$6.50; Exchange List Price, \$5.50. Be sure to mention the type number as well as model number when ordering.

Special Vibrator Packs are available for television and other purposes—your inquiries are invited.



Illustrating ATR Vibrator Pack complete with audio filter, Style B.

● ATR Polarity Changer INVERTERS

Model
PCA



For Operating Fractional Horsepower and Electric Clock Motors, A. C. Radios, Amplifiers, and Other A. C. Devices from 110 and 220 Volt D. C. Lines.

The Polarity Changer Inverter really consists of nothing more than a polarity changer vibrator with associated condensers. The Polarity Changer Inverter is unique in the respect that generally no transformer is made use of and its chief advantages are light weight and small size. The polarity changer vibrator used is in effect a double-pole double-throw switch which causes the D. C. input voltage to be applied across any given load in first one direction and then reversed, the frequency of operation being determined by the frequency of the vibrating reed. The Polarity Changer Inverter is of especially high efficiency and generally in excess of 95%. These units are corrected for operation with loads having power factors not lower than 75%.

Illustrating ATR Polarity Changer Inverter.

Type	Input D.C. Voltage	A.C. Output		Maximum Output Capacity	List Price	Code Word	R. F. Suppressed	Application
		Voltage	Frequency					
110	110	110	60 cycles	300 watts	\$24.00	DPCAJ	Yes	Radios, Amplifiers
110A	110	110	60 cycles	300 watts	22.00	EPCA K	No	Industrial
			Adjustable to					
110B	110	110	60 cycles	300 watts	24.00	FPCAL	No	Industrial
220	220	220	60 cycles	300 watts	26.50	GPCAM	Yes	Radios, Amplifiers
220A	220	220	60 cycles	300 watts	24.50	HPCAN	No	Industrial
			Adjustable to					
220B	220	220	60 cycles	300 watts	26.50	IPCAO	No	Industrial

ATR Polarity Changer Inverters are attractively housed in a black-wrinkled finished metal cabinet; dimensions, 7 3/4" x 4 1/2" x 3-3/16"; Shipping weight, 5 lbs.

ATR Replacement Polarity Changer Vibrators, any type, List

Price, \$7.00; Exchange List Price, \$5.00. Be sure to mention the type number as well as model number when ordering.

Special Polarity Changer Inverters can be supplied—your inquiries are invited.



Illustrating Standard Model "A" Battery Eliminator.

● ATR "A" BATTERY ELIMINATORS

Specially Designed for Demonstrating and Testing Auto Radio Sets on Regular A. C. Lines, 105-125 Volts 50-60 Cycles.

- Eliminates Storage Batteries and Battery Chargers.
- Prevents the Possibility of Spoiling a Sale Because of a Run-Down Battery.
- Operates the Set at Maximum Efficiency at All Times.
- Delivers Pure Direct Current at the Correct Voltage for the Proper Operation of Any Auto Radio Set.
- Fully Automatic and Fool-Proof.

Other Suggested Uses:

As a power supply for field coils, exciter lamps, and relays.
In the laboratory, for supplying various low D. C. voltages by simply using rheostat in one side of the A. C. cord.

Equipped with Full-Wave Dry-Disc Type Rectifier, Assuring Noiseless, Interference-Free Operation and Extreme Long Life and Reliability.

ATR STANDARD MODEL—Rated output 6.3 volts at 6.5 amperes.
Size 7 $\frac{1}{2}$ "x7 $\frac{1}{4}$ "x5-3/16"; Shipping weight, 18 $\frac{1}{2}$ lbs.;
code word "SELIM." List Price..... **\$24.95**

ATR HEAVY DUTY MODEL—Rated output 6.3 volts at 14 amperes.
Uses dual rectifiers. Size 8 $\frac{3}{8}$ "x13"x5 $\frac{1}{4}$ "; Shipping weight,
32 lbs.; code word "HELMIM." List Price..... **\$39.50**

Any of the above model "A" Battery Eliminators can be supplied for 220-240 volt A. C. input operation at 10% higher prices. If a 220-240 volt input "A" Battery Eliminator is desired, specify Type "B" and substitute "T" for the last letter in the cord word.

All ATR Eliminators have as standard equipment: On-Off Switch, Pilot Light Indicator, 10-Ampere Fuse, Rubber Mounting Feet, 6-ft. All-Rubber Cord Set, and Cabinet of heavy gauge metal having attractive black-wrinkled finish.



Illustrating Heavy Duty Model "A" Battery Eliminator.



Illustrating Model 600.

● ATR AUTOMATIC TAPERING BATTERY CHARGERS

For Keeping Auto Batteries Fully Charged Right in the Car! An Automotive Necessity—Needed More Now Than Ever Before—Makes Cold Weather Starting Easy.

The additional appliances—such as auto radios, spot lights, heaters, fans, cigarette lighters, etc.—operated from the battery of the modern automobile impose a severe drain on the battery, making the normal "hard starting" in cold weather still more difficult.

The ATR Automatic Tapering CHARGER solves this problem by boosting or charging the battery right in the car conveniently and economically. No need to remove the battery! Simply attach plug to dash receptacle which connects to ammeter and frame of car and flip the charger toggle switch "ON." Cannot overcharge battery due to automatic tapering charge feature.

Operates from any 110-120 volt 50-60 cycle A. C. line. Utilizes a full-wave dry-disc type rectifier, assuring extreme long life and reliability.

- Noiseless
- Efficient
- Long Life
- No Radio Interference
- Economical

ATR STANDARD CHARGER—Model 400—Charging rate 4 to 2 amperes. Complete as illustrated with polarized dash receptacle and plug, fuse, 6-foot D. C. cord, 6-foot A. C. cord, and complete instructions. Dimensions, 5 $\frac{1}{2}$ "x3-5/16"x3 $\frac{1}{4}$ "; Shipping weight, 5 lbs.; code word "FCHAR" Price List **\$7.95**

ATR DELUXE CHARGER—Model 600—Charging rate 6 to 3 amperes. Complete as illustrated with polarized dash receptacle and plug, fuses, 9-foot D. C. cord, and 12-foot A. C. cord, on-off toggle switch, and complete instructions. Dimensions 8"x4"x3-5/16"; Shipping weight, 8 lbs.; code word "DCHAL" List Price **\$11.95**

Any of the above model Battery Chargers can be supplied for 220-240 volt A. C. input operation at 10% higher prices. If a 220-240 volt input Battery Charger is desired, specify Type "B" and substitute "T" for the last letter in the code word.



Illustrating Model 400.



Janette



ROTARY CONVERTORS

FOR CHANGING DIRECT CURRENT TO ALTERNATING CURRENT

For Use with Radio Receivers, Amplifiers, Phonographs, Gaseous Electric Signs, Sound Pictures, Electric Organs, Public Address Systems, Musical Instruments, Etc.

*Capacity in Volt Amperes When Wound For		DEALER PRICES FOR CONVERTERS F.O.B. CHICAGO, ILL.				** D.C. Amperes Input (60 Cycle Output)	Price Additions for Manual D.C. Starter	
60 Cycles	50 Cycles	Frame Size	With Filters	Frame Size	Without Filters			
115 VOLTS DIRECT CURRENT TO SINGLE PHASE— 110 VOLTS—A.C. (‡) 3600 R.P.M.—SLEEVE BEARINGS								
230 Volts—Add \$1.20 net for converters wound for 230 volt D.C. primary.**								
						115 Volts	115 Volts	230 Volts
110	90	CA-19-F	\$27.45	CA-19	\$23.10	1.9		
150	120	CA-18-F	30.30	CA-18	26.10	2.4		
225	175	CA-16-F	35.25	CA-16	29.10	3.0		
300	250	CS-13-F	42.60	CS-13	36.60	4.0		
500	400	CS-12-F	56.10	CS-12	49.50	6.1		
†750	600	CE-12-F	83.55	CE-12	72.60	8.5	\$15.45	\$15.45
1000	800	CE-10-F	103.65	CE-10	89.10	13.0	22.20	22.20
115 OR 230 VOLTS DIRECT CURRENT TO SINGLE PHASE— 110 VOLTS—A.C. (‡) 1800 R.P.M.—BALL BEARINGS								
600	500	CF-12-F	\$131.40	CF-12	\$116.85	8.2	\$15.45	\$15.45
800	650	CF-34-F	139.95	CF-34	125.40	10.0	22.20	22.20
1200	950	CF- 1-F	151.80	CF- 1	137.25	14.0	22.20	22.20
1500	1200	CF-15-F	186.15	CF-15	171.60	16.5	22.20	22.20
2500	2000	CF- 2-F	252.15	CF- 2	237.60	25.5	22.20	22.20
3250	2600	CF-35-F	295.05	CF-35	280.50	33.0	27.75	27.75
6 VOLTS DIRECT CURRENT TO SINGLE PHASE— 110 VOLTS—A.C. (‡) 3600 R.P.M.—BALL BEARINGS								
40	40	CA-19-F	\$34.05	CA-19	\$29.10	15.0		
60	60	CA-18-F	42.60	CA-18	37.65	24.0		
12 VOLTS DIRECT CURRENT TO SINGLE PHASE— 110 VOLTS—A.C. (‡) 3600 R.P.M.—BALL BEARINGS								
80	80	CA-19-F	\$31.05	CA-19	\$29.10	15.0		
120	120	CA-18-F	36.00	CA-18	33.60	18.0		
160	130	CA-16-F	42.60	CA-16	36.45	24.0		
225	160	CS-13-F	50.85	CS-13	43.50	32.0		
32 VOLTS DIRECT CURRENT TO SINGLE PHASE— 110 VOLTS—A.C. (‡) 3600 R.P.M.—SLEEVE BEARINGS								
110	90	CA-19-F	\$27.45	CA-19	\$23.10	6.5		
150	120	CA-18-F	30.30	CA-18	26.10	8.5		
225	175	CA-16-F	35.25	CA-16	29.10	11.5		
300	250	CS-13-F	42.60	CS-13	36.60	15.0		
500	400	CS-12-F	56.10	CS-12	49.50	18.0		
650	600	CE-12-F	83.55	CE-12	72.60	27.0		
850	750	CE-10-F	119.25	CE-10	102.45	36.0	\$22.20	

THE ORIGINAL CONVERTER For Converting D.C. to A.C.

Built especially for radio and sound apparatus—capacities 110 to 3250 volt amperes—with or without all-wave filters. Dynamotor construction—economical to operate—ruggedly built for years of trouble-free service—used or recommended by the largest manufacturers of radio and sound apparatus throughout the world.

WHY EXPERIMENT?
INSIST ON A JANETTE



Fig. 1. Type CA-18 Without Filter



Fig. 2. Type CA-16-F

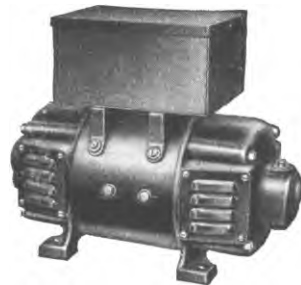


Fig. 3. Type CS-12-F

ALL PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

* CAUTION: Voltamperes and watts are the same ONLY on a load of 100% power factor. For a load of 85% P. F. the watts will be 15% less than the voltampere capacities shown. All converters are furnished for 60-cycle output unless otherwise specified.

** Ampere ratings are based on 85% P. F. and may vary plus or minus 10% from the figures shown. The amperes for 230 volt D.C. converters will be half the amperes shown for 115 volt input.

‡ Converters wound for 50 cycles will run about 5/6 of speeds shown for 60 cycles.

† The special type of filter is designed for both short and standard broadcasting bands from 500 to 30,000 kilocycles (10 to 347 meters). Exceptionally quiet reception results on all bands.

† No starter is required for CE-12-F converter WITH filter but must be used with CE-12 converter WITHOUT filter.

PRICES FOR SPECIAL VOLTAGE FREQUENCY OR BOTH: For building converters wound for a direct or alternating current voltage on frequency not listed as standard or for converters wound for operating from 28 to 36 volts D.C. for railroad radio service, an extra charge is made. Any converter can be wound with 220 volts alternating current secondary, for the same capacity as shown for 110 volts. For these special windings add the following percentages:

ORDERS FOR 1 to 9 CONVERTERS, ADD 10%; 10 to 24, ADD 5%; 25 and over NO addition.

FREQUENCY CONTROL: For converters with manual frequency control add \$6.00 net. For automatic frequency control add \$16.20 net.

● ● ● SOME OF THE JANETTE PRODUCTS ● ● ●

Motorized Speed Reducers — Motor-Generators — Dynamotors — Motors — Generators
Gasoline Electric Plants — Blower Wheels



Fig. 4. Type GF, 1800 r.p.m. alternator, with direct connected outboard exciter.

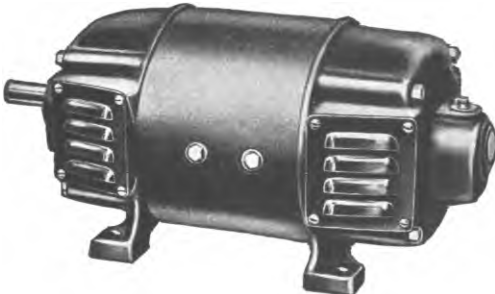


Fig. 5. Self excited, single phase, 60 cycle CS type, 3600 r.p.m., A.C. generator.



Fig. 6. CA type dynamotor. D.C. to D.C.

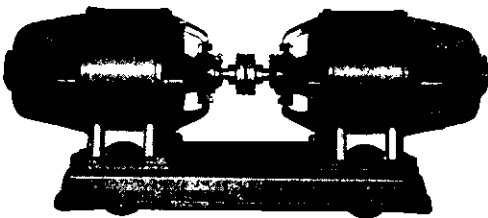


Fig. 7. Four bearing A.C. to D.C. motor generator set.

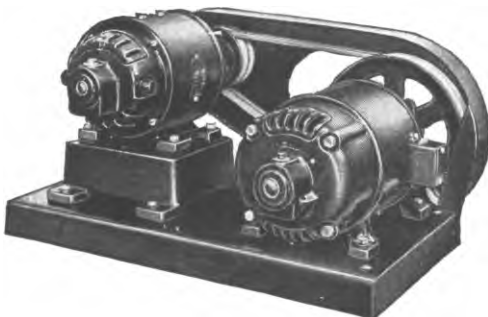


Fig. 8. Frequency changer—25 to 60 cycles.

ALTERNATING CURRENT GENERATORS (Fig. 4-5)

Volt Ampere Capacity 80% P.F.	Frame Size	DEALER PRICES F.O.B. CHICAGO, ILL.				Approx. Shipping Weights in Pounds
		Alternator Only		Addition For		
		Bearings		Pulley	Field Rheostat	
		Sleeve	Ball			
110 (OR 220) VOLTS — 1 PHASE — 60 CYCLES — 3600 R.P.M.						
110	CA-18	\$28.50	\$32.50	\$0.50	\$6.50	32
150	CA-18	31.75	35.75	.50	6.50	32
225	CA-16	34.75	38.75	.90	6.50	34
300	CS-13	42.50	46.50	.90	8.75	47
500	CS-12	56.00	60.00	2.00	8.75	59
750	CS-12	81.00	85.00	2.00	8.75	77
1200	CE-10	98.25	102.25	2.00	8.75	125
110 (OR 220) VOLTS — 1 PHASE — 60 CYCLES — 1800 R.P.M.						
750	CF-12	.....	127.35	2.50	8.75	145
1000	CF-34	.....	136.25	2.50	8.75	150
1250	CF-1	.....	148.50	2.50	8.75	170
1800	CF-15	.....	184.25	2.50	8.75	185
2500	CF-2	.....	253.50	3.00	14.25	300
4500	CF-35	.....	298.00	4.00	14.25	320

Ball-bearing generators are recommended, when driven by gasoline engines. A complete line of D.C. generators up to 6000 watts is available.

FREQUENCY CHANGERS—25 TO 60 CYCLES (Fig. 8)

MOTORS: 110 220 Volts, 25 cycles, 1 phase, 1425 r.p.m.
GENERATORS: 60 cycles, 1 phase, 3600 r.p.m., self-excited, 80% P.F. regulation. Voltage 25%. Frequency $\pm 2-3$ cycles.

Volt Ampere Capacity 80% P.F.	Volts— One Voltage Only	H.P. of Motor	DEALER PRICES F.O.B. CHICAGO			Approx. Shipping Weights in Pounds
			Motor Generator Only	Addition For Ball Bearings	Field Rheostat	
110	110 or 220	1/2	\$92.00	\$8.00	\$6.50	104
150		3/4	105.00	8.00	6.50	109
225		1	122.00	8.00	6.50	113
300		3/4	141.00	8.00	6.50	135
500	1 1 1/2 2	1	198.00	8.00	8.75	265
750		1 1/2	255.00	8.00	8.75	279
1200		2	315.00	8.00	8.75	340

MOTOR GENERATOR SETS—A.C. TO D.C. (Fig. 7)

MOTORS: 110 220 volts, 60 cycles, 1725 r.p.m., 1 phase.
GENERATORS: Direct current—Compound wound.

Watts	Capacity in Watts When Wound For Service	Volts Output	List Prices F.O.B. Chicago	Approximate Shipping Weights in Pounds		
		One Voltage Only <td>Bare Dynamotor <td></td> </td>	Bare Dynamotor <td></td>			
60	6 to 31	1/2	\$61.00	\$4.00	\$6.50	65
	32 to 250	1/2	55.00	4.00	6.50	
100	6 to 31	3/4	64.00	4.00	6.50	85
	32 to 250	3/4	58.00	4.00	6.50	
160	12 to 31	1	85.00	8.00	8.75	125
	32 to 250	1	77.00	8.00	8.75	
200	14 to 31	1 1/2	97.00	8.00	8.75	130
	32 to 250	1 1/2	88.00	8.00	8.75	
300	14 to 31	2	125.00	4.00	8.75	130
	32 to 250	2	114.00	4.00	8.75	
500	22 to 31	1	140.00	8.00	8.75	240
	32 to 250	1	133.00	8.00	8.75	
750	32 to 250	1 1/2	211.00	8.00	8.75	310
1000	32 to 250	2	247.00	8.00	8.75	365

DYNAMOTORS—D.C. TO D.C. (Fig. 6)

Capacity in Watts When Wound For Service	Volts Output	List Prices F.O.B. Chicago		Approximate Shipping Weights in Pounds
		Bare Dynamotor	Approximate Shipping Weights in Pounds	
FOR 32-115 OR 230 VOLT D.C. PRIMARY — 3000 R.P.M. — SLEEVE BEARINGS				
20	35	6 to 350	\$27.60	30
75	120	6 to 600	32.40	32
95	180	6 to 600	38.40	34
150	240	8 to 600	45.00	47
		601 to 750	53.40	47
		751 to 1000	64.20	47
250	400	10 to 600	61.80	59
		601 to 750	72.60	59
		751 to 1000	87.00	59
350	600	15 to 600	90.60	77
		601 to 750	106.20	77
		751 to 1000	127.20	77
500*	800	21 to 600	111.00	125
550*	800	601 to 750	130.80	125
		751 to 1000	156.60	125
FOR 115 OR 230 VOLT A.C. PRIMARY — 1800 R.P.M. — BALL BEARINGS				
600*	850	18 to 500	171.20	170
	1200	18 to 500	214.80	183
1100*	1500	24 to 600	297.00	300
1500*	2000	48 to 600	340.80	310
FOR 6 VOLT D.C. PRIMARY — 3000 R.P.M. — BALL BEARINGS				
20	35	6 to 350	32.40	20
60	75	6 to 500	36.00	32
100	100	6 to 600	65.40	59
FOR 12 VOLT D.C. PRIMARY — 3000 R.P.M. — BALL BEARINGS				
20	35	6 to 350	32.40	20
80	120	6 to 600	36.60	32
175	250	6 to 600	54.60	47
FOR 12 VOLT D.C. PRIMARY — 3000 R.P.M. — BALL BEARINGS				
80	120	600 to 750	54.00	25
175	250	600 to 750	67.20	39
175	250	751 to 1000	76.80	59

* Starters are necessary. Prices on request.

AUTO RADIO DEMONSTRATION PACKS



STANCOR SUPER PACK

Provides 6 Volts D. C. for Auto Radio and Accessories



- Black wrinkle finished steel case.
- Streamlined, exemplifying lines and curves.
- Attractive matched panel, clearly marked.
- Adjustable output voltage.
- Reliable heavy duty output current.
- Well filtered, extremely low ripple.
- Quick acting overload cut-off relay.
- Replaceable line fuse protection.
- Components rigidly mounted within case.
- Well ventilated.
- Good voltage regulation for varying loads.
- Line interference filtered.
- Wide range voltmeter.

The Stancor Super 132 Pack is a compact power unit designed to meet numerous requirements for obtaining low voltage heavy duty direct current supply from 115 volt A. C. lines.

Ideal for Auto Radio Sales demonstration, and service test work, effectively operating most push button tuning Auto radios. Useful apparatus for industrial or laboratory purpose. It may also be used as a battery charger, a magnetic field exciter, or for electroplating.

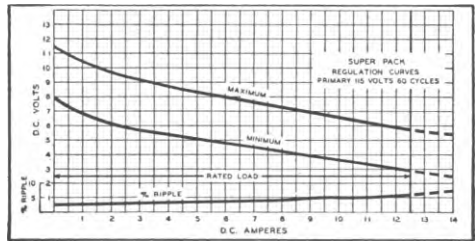
The Super Pack delivers from 3 to 6 volts (See curve) of well filtered D. C. at 12.5 amperes on continuous duty, or 5 volts at 16 amperes instantaneous load. Exceptionally well designed filter minimizes ripple to six percent. A fuse in the primary circuit, together with an overload relay, protects the pack and your equipment.

All controls and terminals are easily accessible on an inclined front panel. A control switch varies the output voltage in approximately one-half volt steps, which is indicated on the panel mounted voltmeter.

The pleasing appearance of the Super Pack makes it an attraction as well as a useful asset to any window display.

Specifications

D. C. OUTPUT in seven steps.	POWER SOURCE
No load..... 8 to 12 volts	115 volts 50-60 cycles A. C.
Continuous load 12.5 A. 3 to 6 V.	325 watts at continuous load.
Max. inst. load 16 A. 2 to 5 V.	Overload relay adjusted to 20 amperes.
Rectifier—full wave with twenty-five 3½" radiating fins.	Electrostatic shielded transformer.
Filter—heavy current choke with 4,000 mfd. condenser	Six foot cord and plug.
Ripple less than 6%.	Dimensions L. 13½"; W. 8¾"; H. 6".
Stancor No. 132	Weight in carton 26 lbs.
	List price \$33.25



STANCOR ECONOMY PACK

Provides Well Filtered 6 Volts D. C. from Power Line



- Smallest pack with best filter.
- Replaceable fuse insures against burnouts.
- Jeweled pilot lamp indicates pack operating.
- ON-OFF switch near terminals.
- Convenient terminals for heavy currents.
- Low ripple assures pure direct current.
- Component parts rigidly mounted.
- Easily moved about because of light weight.
- Well ventilated.
- Capable of heavy intermittent loads.
- Quiet operation.

The Economy 131 Pack is one of the lowest priced and most compact units having well filtered D. C. output. The output current is rated lower than the 132 Super Pack, but the quality of the output is the same.

Here is a powerful little pack without extra controls that will furnish plenty of amperes for most requirements.

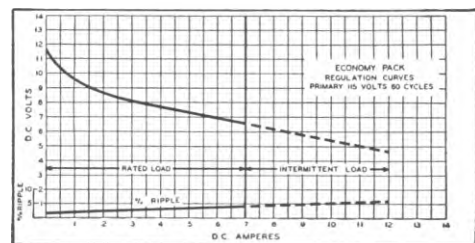
Output terminals are conveniently located for connections. Protection from damage is assured by the fuse which can be replaced without bother. "On-off" toggle switch is within easy reach. A bright jeweled pilot light indicates whether the power is "on" or "off."

The unit can be used wherever the adjustment of voltage is not necessary. It is well adapted to radio, auto and industrial field. The pack will normally operate one auto radio with remote control.

A handy convenient power supply for demonstrating auto radios or accessories is always available from this pack by simply plugging into 115 volt power supply.

Specifications

D. C. OUTPUT	POWER SOURCE
No load..... 11 volts	115 volts 50-60 cycles A. C.
Continuous load 7A. 6.5 V.	175 watts at continuous load.
Max. inst. load 12A. 4.5 V.	Electrostatic shielded transformer
Rectifier—full wave with thirteen 2½" radiating fins.	Fuse connected in primary.
Filter—heavy current choke with 4,000 Mid. condenser	Jeweled pilot light.
Ripple less than 4.5%	Six foot cord and plug.
Stancor No. 131	Dimensions L. 8", W. 6¼", H. 7¼"
	Weight in carton 16½ lbs
	List price \$23.25



Above units are for 115 volt 50-60 cycles. May be supplied on order for 230 volt operation or for 25 cycles or both. For 230 volts, increase list price 8%; for 25 cycles, 40%; for 230 volts, 25 cycles, 48%.



STANCOR POWER PACKS

2 VOLT "A" AND "B" ELIMINATOR PLUG-IN A. C. POWER UNIT



Stancor 134

The 134 pack changes 115 volts 60 cycles into "A" and "B" supply for 4, 5, 6 or 7 tube radios using 2 volt tubes such as 1C7, 1D5, 1E5, 1F5, 1G5, 1H4G etc.

Makes your battery radio into an all electric radio operating from power line for a few cents a month.

"A" supply well filtered providing 2 volts of D. C. maximum of 480 M. A. with proper outlets for smaller radios.

"B" supply humless with maximum current of 20 M. A. Model 134 has "B" output of 90 Volts only while model

134X has "B" output of 67, 90, 112 or 135 volts.

Includes universal receptacle for standard battery plugs or special connector for non-standard plugs.

Black wrinkle finished case 8 1/4" x 4 1/4" x 2 3/8". Weight in carton 5 1/2 lbs.

Stancor No. 134 for 2 volt portables using 90 volts "B" supply..... List price \$10.95

Stancor No. 134X for 2 volt radios using 67, 90, 112 or 135 volts "B" supply..... List price \$11.95

2 VOLT "A" AND "B" ELIMINATOR VIBRATOR UNIT



Stancor 135

The 135 pack connects to a "Hot Shot" dry cell or storage battery and provides "A" and "B" supply for use with 4, 5, 6 or 7 tube battery radios using 2 volt tubes such as 1C7, 1D5, 1E5, 1F5, 1G5, 1H4G, etc.

"A" supply well filtered providing 2 volts of D. C. maximum of 480 M. A.

Vibrator "B" supply humless and hash-free with maximum current output of 20 M. A. "B" voltages are 67, 90, 112, or 135.

Includes universal receptacle for standard battery plugs

or special connector for non-standard plugs.

Pack connects to 6 volts D. C. using 1.2 amperes (for 4 tube radio).

Special relay control in pack allows "on" and "off" operation from battery switch on radio

Does away with expensive "B" batteries. Ideal for farm, cottage, camp, boat, auto or trailer.

Black wrinkle finished case, size 5 1/2" x 5" x 2 3/8". Weight in carton 3 1/2 lbs.

Stancor No. 135..... List price \$13.95

1.4 VOLT "A" AND "B" ELIMINATOR PLUG-IN A. C. POWER UNIT

The 136 pack connects to 115 volts 60 cycles and supplies "A" and "B" potentials for use with 4, 5, or 6 tube home or portable radios using 1.4 volt filament tubes such as 1A7, 1N5G, 1H5G, 1Q5G, 1A5G, etc.

"A" supply well filtered providing 1.4 volts of D. C. maximum 300 M. A.

"B" supply humless using 5W4GT rectifier tube with maximum current output of 18 M. A. at 90 volts

Includes universal receptacle for standard battery plugs or special connector for non-standard plugs.

Unit will fit battery compartment of portable radio.

Operates portable radios from electric light power for few cents a month with better performance.

Black wrinkle finish case, size 6 3/4" x 3 1/2" x 2 3/8". Weight in carton 3 1/2 lbs.

Stancor No. 136..... List price \$9.95



Stancor 136

1.4 VOLT "A" AND "B" ELIMINATOR PLUG-IN A. C.-D. C. POWER UNIT

The 137 pack is an "A" and "B" eliminator operating from 115 volts A. C. or D. C. Power unit for use with 4, 5, or 6 tube radios using 1.4 volt tubes such as 1A7, 1N5G, 1H5G, 1Q5G, 1A5G, etc.

"A" supply well filtered providing 1.4 volts of D. C. maximum 300 M. A.

"B" supply humless furnishing 90 volts at 18 M. A.

Includes universal receptacle for standard battery plugs or special connector for non-standard plugs.

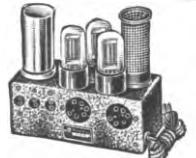
Unit will fit battery compartment of portable radio.

Changes portable radio into A. C.-D. C. electric radio operating for a few cents per month

Ideal for use with portables in home, hotel, apartment or places where either type of power current is available.

Black wrinkle finish size 6" x 4 1/2" x 1 3/4". Weight in carton 2 lbs.

Stancor No. 137..... List price \$8.95



Stancor 137

1.4 VOLT "A" AND "B" ELIMINATOR VIBRATOR UNIT



Stancor 138

The 138 pack connects to a "Hot Shot" dry cell or storage battery and provides "A" and "B" supply for use with 4, 5, or 6 tube battery radios using 1.4 volt tubes such as 1A7, 1N5G, 1H5G, 1Q5G, 1A5G, etc.

"A" supply well filtered furnishing 1.4 volts of D. C. maximum of 300 M. A.

Vibrator "B" supply humless and hash-free with maximum current output of 18 M. A. at 90 volts.

Includes universal receptacle for standard battery plugs or special connector for non-standard plugs.

Pack connects to 6 volts D. C. using 0.8 amperes (for 4 tube radio).

Special relay control in pack allows "on" and "off" operation from battery switch on radio.

Ideal for operating portable radios at farm, summer cottage, camp, motor boat, automobile, or trailer.

Black wrinkle finished case size 5" x 5" x 2 3/8". Weight in carton 3 1/2 lbs.

Stancor No. 138..... List price \$12.50

6 VOLT FARM RADIO PLUG-IN A. C. POWER UNIT



Stancor 125

The 125 pack connects to 115 volts A. C. and operates farm radios which use 6 V.D. C. storage battery.

As rural districts are electrified, this pack will change most of the popular farm radio models into an all electric radio.

No need for messy storage battery and troublesome charger.

Double section filter isolates filaments from vibrator assuring no hum or "hash."

Three taps on transformer for line voltage adjustment.

Electrostatic shield transformer and line condensers minimizes noises.

Provides connections for turning pack "on" and "off" at radio.

Supplies 6 volts D. C. at 2 amperes for farm radios. Includes instructions for connecting outlets.

Dimensions H. 6", L. 10", W. 5". Weight in carton 8 1/2 lbs.

Stancor No. 125..... List price \$25.00

SPECIAL TRAIN PACK

The U-5 pack has been designed specifically for efficient operation of HO or other D. C. model trains.

Its realistic appearance as power apparatus benefits any model railway system.

Supplies continuously 1 ampere D. C. at 6 to 8 volts, depending upon type of load or higher instantaneous currents for starting, switching, etc.

May be used to replace dry cells for other purposes such as signals, relays, etc.

Operates from 115 volts A. C. 50-60 cycles.

Pack consists of transformer and rectifier sealed within a neat appearing metal case finished in wrinkle grey and mounted upon four rubber feet.

Thumb nut connecting posts upon ceramic insulators provide easy-to-connect output.

Dimensions H. 5 1/4", W. 2 3/4", D. 2 3/4". Weight in carton 3 lbs.

Stancor No. U 5..... List price \$7.50



Stancor U5

TELEPHONE PACK

The 125 T pack is a compact unit supplying dependable, trouble-free D. C. electricity for telephones and signal devices. Also supplies 6 and 12 volts A. C. for buzzers, door openers and other signal apparatus.

Combines requirements for transformer and batteries as used in apartments, offices, etc.

Does away with messy storage batteries or dry cells that are always wearing out.

Once installed will operate without attention, inspection or repairs. Saves money for private telephone users.

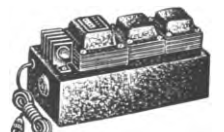
Cord plugs into 115 volts 60 cycle A. C. and makes available at all times low voltage A. C. or D. C.

Full wave rectifier and double section filter provides humless output with less than one percent ripple.

Dimensions H. 6", W. 5", L. 10". Weight in carton 8 1/2 lbs.

Stancor No. 125 T supplies 6 V. D. C. 2 A. List price \$25.00

Stancor No. 125T12 supplies 12 V. D. C. 2 A. List price \$31.75



Stancor 125T

UTILITY PACK



Stancor U129

The U-129 pack is designed for various applications where variable voltages with D. C. up to 12 amperes is required. Will handle instantaneous load of 20 amperes.

Gives you voltage you want by the twist of a knob.

Variable tap switch provides voltages in six steps from one to ten volts, depending upon the load.

Operates from 115 volts—50-60 cycles A. C.

Transformer electrostatic shielded minimizing line interference.

Full wave rectifier has twenty five 3 1/2" radiating fins. Has many uses such as battery charging, tank plating, horn testing, magnetic field excitation, small spot welding; also many laboratory uses.

Equipped with six foot cord and plug, voltage control tap switch, "on-off" switch and jeweled pilot light.

Dimensions H. 7", W. 6", L. 9". Weight in carton 18 lbs.

Stancor No. U 129..... List price \$29.10

Electronic CONVERTERS and VIBRAPACKS



MODEL 10G..... LIST PRICE \$27.00
MODEL 141..... LIST PRICE \$38.00

Electronic CONVERTERS for 32 VOLT SYSTEMS to Operate 110 AC Radios, Amplifiers, Public Address Systems

Electronic Model 10G—32 Volts DC to 110 Volts AC—100 to 125 Watts
Electronic Model 141—32 Volts DC to 110 Volts AC—180 to 200 Watts

Wherever the operation of 32 volt power plants is prevalent, these two converters have made it possible to operate standard 110 volt AC equipment. Specific applications where such conversion is necessary include rural districts, railroad trains, small yachts, fishing boats and other marine uses. The converters operate on voltage from 24 to 45 volts and have an 85% efficiency at full load.

The model 10G converter is used primarily for operating radios—thus giving listeners the opportunity to select any make or model 110 volt AC radio rather than be limited to battery sets or a few 32 volt models that have low trade-in value.

The Model 141 converter is a more powerful unit designed for operating 110 volt AC radios, amplifiers and P. A. systems from 32 volt power plants. Consult the valugraph chart shown on page four.

Electronic CONVERTERS for 110 DC to AC

to Operate 110 Volt AC Radios, Public Address Systems, Electrical Appliances, Intercall Systems, Phonographs, Radio Test Equipment, etc.

Electronic Model 201—110 Volts DC to 110 Volts AC—150 to 200 Watts
Electronic Model 221—110 Volts DC to 110 Volts AC—200 to 300 Watts

With direct current covering large areas in most big cities and being used on steamship and from Kohler farm and marine power plants, it is necessary to have individual power supplies that will permit the use of 110 volt AC equipment under such conditions. These two Electronic models are designed especially for this 110 volt DC to 110 volt AC conversion. The Model 201 Electronic converter is recommended for the operation of AC radios from direct current, while the Model 221 is a more powerful unit for large radios and electrical appliances and devices with synchronous motors having low power factors (with the exception of electric clocks and neon signs) that come within its wattage rating. Ideal for demonstrating AC appliances in stores wired with direct current. See valugraph chart on back page for operating characteristics.



MODEL 201..... LIST PRICE \$31.00
MODEL 221..... LIST PRICE \$38.50



MODEL 301..... LIST PRICE \$27.50
MODEL 501..... LIST PRICE \$27.50

Electronic CONVERTERS OPERATING from 6 and 12 VOLT STORAGE BATTERIES

Electronic Model 301—6 Volts DC to 110 Volts AC—75 to 90 Watts
Electronic Model 501—12 Volts DC to 110 Volts AC—100 to 125 Watts

For those who find it necessary to operate 110 volt AC equipment from storage batteries, here are two ideal units for making that possible.

The Model 301 Electronic converter is used primarily for the operation of small 110 volt AC radio sets and amplifiers from 6 volt batteries.

The Model 501 converter does exactly the same type of job as the Model 301, only it converts 12 volts DC to 110 AC. This particular model is used extensively as a power supply for radio and public address systems mounted in trucks which have 12 volt storage batteries. Check carefully the outstanding characteristics of these two converters as set forth on the Electronic valugraph chart found on page four.

Electronic VIBRAPAKS

to Operate Portable Transmitters and Public Address Systems, Transceivers, and for Laboratory Use

Electronic Model 25—6 Volts DC to 300 Volts DC—30 to 40 Watts
Electronic Model 31—6 Volts DC to 250 to 325 DC—50 to 125 M. A.
Electronic Model 51—12 Volts DC to 250 to 325 DC—50 to 125 M. A.
Electronic Model 55—12 Volts DC to 300 Volts DC—35 to 40 Watts

The Models 31 and 51 vibrapaks are for operation on 6 volts and 12 volts DC respectively, and have a variable output ranging from 250 volts at 50 milliamperes DC to 325 volts at 125 milliamperes DC. The tap switch, for varying the voltage, is always at ground potential, eliminating possibilities of high voltage short circuits. Exclusive 8-contact converter type vibrator used—not auto radio type—increases the life of the power supply three to four times.

The Models 25 and 55 are 6 volt and 12 volt DC power packs respectively—delivering 300 volts at 100 milliamperes DC. All Electronic vibrapaks are completely filtered for RF interference and can be used on five meter transmission without additional filtering. These models are equipped with high voltage filter systems. The output is pure DC—no other filter is necessary. See valugraph chart on following page.



MODEL 25..... LIST PRICE \$25.00
MODEL 31..... LIST PRICE \$30.00
MODEL 51..... LIST PRICE \$30.00
MODEL 55..... LIST PRICE \$27.00

SEE REVERSE FOR ELECTRONIC CONVERTER VALUGRAPH CHART

ELECTRONIC

THE Electronic CONVERTER VALUGRAPH CHART

Complete Characteristics for All Converter Models—DC to AC

Model No.	D. C. Input Voltage	Output Voltage	Output Frequency	Rated Continuous Wattage	Rated Intermittent Wattage	% Efficiency at Full Load	% Regulation	Current Limit Full Load	% Minimum Load Power Factor	Radio Frequency Interference Suppressed	Replacement Vibrator No.	Shipping Weight	Dimensions in Inches	Best Adapted For	Revised List Price Effective December 15, 1937
25	6	300	D.C.	30	40	57	80	9.0	---	Yes	421	10	8 9/16x5 3/4 x3 1/4	Transmitters, Portable, P. A., Etc.	\$25.00
31	6	250 275 300 325	D.C.	50 MA 75 MA 100 MA 125 MA	----- ----- ----- -----	60 to 55	80	12.2	---	Yes	421	11	8 3/4 x5 1/2 x3 1/2	Transmitters, Portable, P. A., Etc.	30.00
85	6	110	60	35	50	90	75	6.0	75	No	426	5	6x5 1/2 x3 1/2	Electric Razors Small AC Motors	15.00
301	6	110	60	75	90	85	84	14.7	60	Yes	4301	14	8 3/4 x6 1/4 x4 1/2	Radio, P. A.	27.50
60	6	7500	A.C.	10 MA	-----	-----	-----	2.5	-----	Yes	475	16	12 1/8 x3 3/4 x6 3/4	Mobile Neon Signs	18.75
51	12	250 275 300 325	D.C.	50 MA 75 MA 100 MA 125 MA	----- ----- ----- -----	55 to 60	80	6.2	---	Yes	321	11	8 3/4 x5 1/2 x3 1/2	Transmitters, Portable, P. A., Etc.	30.00
55	12	300	D.C.	35	40	57	80	5.0	-----	Yes	321	10	8 9/16x5 1/4 x3 1/4	Transmitters, Portable, P. A., Etc.	27.00
86	12	110	60	35	50	90	75	3.0	75	No	327	5	6x5 1/2 x3 1/2	Electric Razors Small AC Motors	15.00
501	12	110	60	100	125	85	94	10.	60	Yes	3501	14	8 3/4 x6 1/4 x4 1/2	Radio, P. A.	27.50
8	32	110	60	100	125	80	80	3.7	50	No	3240	13	8 3/4 x6 1/4 x4 1/2	Pin Ball Games	17.75
10GE	32	110	60	100	125	85	80	3.7	85	Yes	3217	15	8 3/4 x6 1/4 x4 1/2	Radio	27.00
89	32	110	60	35	50	90	75	1.3	75	No	3240	5	6x5 1/2 x3 1/2	Electric Razors Small AC Motors	15.00
141	32	110	60	180	200	85	80	5.5	60	Yes	32141	19	9 3/8 xx8 3/8 x6	Amplifiers, P. A., Radio	37.00
151	32	110	60	100	125	78	77	4.0	60	No	3240	18	12 1/4 x5 7/16x4 1/16	Sound on Film Amplifiers	35.00
28	110	110	60	100	125	80	80	1.1	50	No	11028	13	8 3/4 x6 1/4 x4 1/2	Pin Ball Games	17.75
38	110	110	60	300	400	90	95	3.2	50	No	11028	15	8 3/4 x6 1/4 x4 1/2	Pin Ball Games	22.50
201	110	110	60	150	200	85	91	1.6	85	Yes	110201	15	10 5/16x8 3/4 x6	Radio	31.00
211	110	110	60	100	125	80	80	1.1	50	Yes	110211	14	8 3/4 x6 1/4 x4 1/2	Radio, Small Syn. Motors, Etc.	27.50
221	110	110	60	200	300	87	85	3.2	80	Yes	110221	19	9 1/8 x8 3/8 x6	Radio, P. A.	38.50
231	110	110	60	350	500	87	83	5.3	60	No	110231	21	9 3/8 x8 3/8 x6	Coin Operated Phonographs	50.00
241	110	110	60	125	150	80	80	1.1	60	No	11028	19	12 1/4 x5 7/16x4 1/16	Sound on Film Amplifiers	37.50
271	110	110	60	150	200	85	91	1.6	85	Yes	110271	19	9 3/8 x8 3/8 x6	Radio, Amplifiers, P. A., Etc.	36.50
291	110	110 220	60	150	200	85	91	1.6	85	Yes	110201	17	13 13/16x5 11/16x4 3/8	Radio, P. A., Foreign Use	42.00
35	110 220	110 220	60	150	250	90	95	1.6	75	No	11028	17	13 3/16x5 11/16x4 3/8	Amplifiers Foreign Use	70.00
32D	220	110	60	300	-----	90	95	1.6	50	No	11028	16	8 3/4 x6 1/4 x4 1/2	Pin Ball Games	30.00
87	220	110	60	35	50	90	75	.22	75	No	11028	5	6x5 1/2 x3 1/2	Electric Razors Small AC Motors	15.00
321	220	110 220	60	150	250	90	95	.76	75	Yes	220321	17	12 1/4 x5 11/16x4 3/8	Radio, P. A., Foreign Use	47.00

Prices subject to change without notice. Slightly higher in Canada and Foreign Countries.

Electronic converters are designed to convert 6, 12, 32, 110 and 220 volts D.C. into 110 volts A.C. and are available in many models—each designed for a particular type of converting performance. These conver-

ters have many exclusive features and are recognized as the best and most efficient on the market today. There are also Electronic Vibrapaks for converting 6 and 12 volts D.C. to 300 volts D.C. All fully guaranteed.

Recommended and used by all leading manufacturers. For further information write

Electronic Laboratories, Inc.
Indianapolis, Ind.

(SEE US FOR DISCOUNTS)



RADIART VIPOWERS

VIBRATOR POWER AT ITS BEST AND MOST POWERFUL



RADIART VIPOWERS NO LONGER NEED STARTING RELAYS

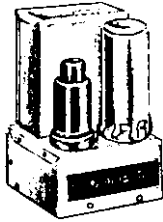
Development of 3 new Radiart Vibrators with isolated coil circuits allows the vibrators to act as their own relays. The coil lead of each vibrator is brought to a "start" terminal, and grounding of the terminal operates the vibrator. This new circuit is incorporated in the Radiart "D" series Vipowers: 4200D, 4200DF, 4202D, 4203D, 4205D.

Previous vipowers with connections for 110v. A.C. input, required removal of the vibrators before satisfactory A.C. operation was obtained. In the new Radiart "D" series, the vibrators

need not be removed as long as the "start" terminals are not grounded.

Two of the new vibrators for these packs, Radiart No. 4251 and No. 4256, are 4-prong non-synchronous units, while the No. 4258 is a 7-prong reversible synchronous type. These vibrators all have special wiring and will not work in sockets wired for conventional vibrators. If use of the "start" terminals is not necessary, standard Radiart vibrators will operate in the "D" series Vipowers.

RADIART VIPOWER 4200-D AND 4200-DF



CHASSIS SPACE
MODEL 4200DF
3-1/2" x 4-3/4"
-7" high.

MODEL 4200D
3-1/2" x 4-3/4"
-5-1/2" high

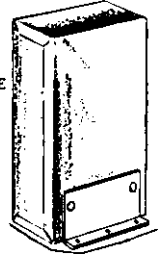
Model 4200D—300v. @ 100ma. in average installations; other voltages 275, 250, 200, and 150. RF suppressed, but no audio filter included.

List price including vibrator but not including rectifier tube \$16.50. Add \$1.00 for 12v. or 32v. model.

Model 4200DF. Similar to model 4200D, with built-in audio frequency filter. Output is practically pure D.C.

List price including vibrator but not including rectifier tube \$21.50. Add \$1.00 for 12v. or 32v. model.

CHASSIS SPACE
—MODEL 4201
3-1/8" x 4"
-6" high

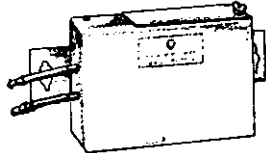


Designed especially for portable transmitters, police motorcycles and marine work where extreme compactness is necessary. Adjustable for 5 output ranges: 300v. @ 100 ma., 275 v. @ 70 ma., 250 v. @ 50 ma., 200 v. @ 40 ma., and 150 v. @ 45 ma.

RADIART VIPOWER 4201

4254 special synchronous vibrator built in for high efficiency. Entire pack is plug-in for easy servicing. RF filter included, but no AF filter. List price, including vibrator, \$16. Add \$1 for 12 v. or 32 v. model.

RADIART VIPOWER 4201-B



CHASSIS SPACE MODEL 4201B
10-3/8" x 2-3/4"—4-7/8" high

A new special Vipower for replacement of motor-generators used on Bosch police receivers. Has a fixed output of 250 volts at 50 ma., and is filtered for RF and audio interference.

Hash filtering is built in and tuned for best results at transmitter frequency, when this information is supplied with order.

Completely enclosed in a waterproof case, equipped with plate to fit special Bosch bracket.

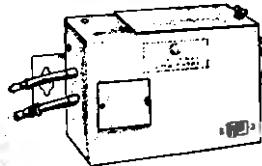
Uses Radiart vibrator 4255H, a special 7-prong reversible synchronous vibrator with a handle for easy removal. Both vibrator and buffer may be replaced by removing plate on top of case.

A hot and B+ leads are brought out in flexible shielding and the A line is equipped with a 10 ampere fuse.

Special voltages and outputs available on order. Allow 3 weeks for delivery.

List price, complete, \$20.00.

RADIART VIPOWER 4101-B2



CHASSIS SPACE MODEL 4201B-2
10-3/8" x 3-1/2"—4-7/8" high

Similar to Radiart Vipower 4201B except using two heavy duty non-synchronous vibrators and a rectifier tube. Has a fixed output of 250 volts at 50 ma., and is filtered for RF and audio interference. Hash filtering is built in and tuned for best results at transmitter frequency, when this information is supplied with order.

Vibrators are operated independently of each other and are separately fused. They are controlled by a slide switch placed on the front panel of the vipower. Fuses are contained within the case and are accessible by the removal of a cover plate.

Two Radiart Vibrators, Type 4251H, are used. They are provided with handles for easy removal. Vibrators, buffer, and rectifier tube may be replaced by removing plate on top of case.

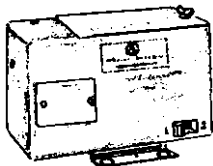
A hot and B+ leads are brought out in flexible shielding. 10 ampere fuses are used.

Special voltages and outputs available on order. Allow 3 weeks for delivery.

List price, complete with 6X5 rectifier tube, \$26.50.

RADIART VIPOWER 4201-B21 and 4201-B22

CHASSIS SPACE
MODEL 4201-B21
7" x 3-1/2"
-5-1/4" high



This vipower has a case similar to that of Type 4201-B2, but is equipped with a bracket to replace the motor generator used with Western Electric receivers, when it is to be mounted horizontally. However, if vertical mounting is required, specify Vipower Model 4201-B22.

The circuit is electrically similar to the 4201-B2 except for the fact that the B- line is not grounded.

Complete RF and audio filters are included. Hash filtering is built in and tuned for best results at transmitter frequency, when this information is supplied with order.

Two Radiart Vibrators, Type 4251H are used. They are separately fused and only one is used at a time. Selection is made by a slide switch on the front of the case.

Vibrators, buffer, or rectifier tube may be replaced by removing plate on top of case. All are brought out of bottom of 4201-B21 case; back of 4201-B22.

10 ampere fuses are used.

Special voltages and outputs available on order. Allow 3 weeks for delivery.

List price, complete with 6X5 rectifier tube, \$27.50.



Write for Radiart's latest catalog.

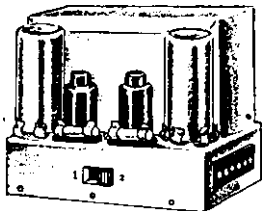




RADIART VIPOWERS



RADIART VIPOWER 4202-D

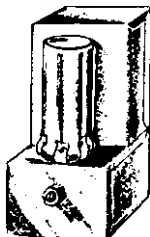


CHASSIS SPACE MODEL 4202D
5-1/4" x 6-1/2"—5-1/2" high

This VipoPower is a dual vibrator unit designed to give 400v. at 150 ma., or 300v. at 200 ma. with a 6.0 v. input. It uses two heavy duty vibrators operating in parallel circuits, and has a 2-position switch for selecting the desired output. The vibrators are the exclusive new Radiart No. 4256 units which permit the VipoPower to be controlled by a small DPST switch instead of the heavy-current relay. The heater circuit has been arranged so that the rectifier tubes may be left connected for stand-by operation. This VipoPower may also be operated from 110v. A.C. List price, \$34.50 Add \$1 for 12 v. or 32 v. models.

RADIART VIPOWER 4203-D

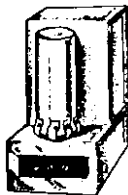
CHASSIS SPACE MODEL 4203D
3" x 4-7/8"—5-1/2" high



Similar to Model 4200B, except using Radiart 4255, a 5-prong reversible synchronous vibrator, requiring no rectifier tube. Readings of output taps are: 300v. @ 100 ma., 275v. @ 70 ma., 250v. @ 50 ma., 200v. @ 40 ma., and 150v. @ 35 ma. RF filtered, but no audio filter included. List price, \$17.00. Add \$1 for 12v. or 32v model.

RADIART VIPOWERS 4204 and 4204-F

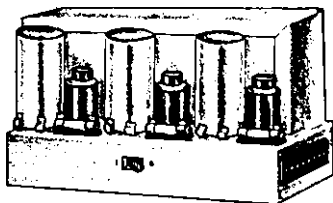
CHASSIS SPACE MODEL 4204
2-5/8" x 4-7/8"—4-1/2" high



A new, smaller version of Model 4203, designed especially to supply aviation equipment. Weight 3 1/4 pounds complete with audio filter, 2 3/4 pounds without filter. Filter requires no increase in dimensions. RF suppressed. Will operate in any position. Maximum rating 14 watts. Three standard output voltages: 250 v. @ 60 ma., 150 v. @ 40 ma., 100 v. @ 35 ma. Uses Radiart 4257 vibrator, a 180-cycle, 5-prong reversible synchronous unit. List price Model 4204F, with audio filter, \$18.25; Model 4204, without filter, \$14.00. Add \$1 for 12 v. or 32 v. models.

RADIART VIPOWER 4205-D

CHASSIS SPACE MODEL 4205D
5-1/4" x 9-1/2" x 5-1/2" high



This VipoPower is a triple vibrator unit designed to give 400v. at 250 ma, with a 6.0v input. The heater circuit has been arranged so that the rectifier tubes may be left connected for stand-by operation. The pack may also be operated from 110v. A.C.

List price, including vibrators\$49.50.

RADIART 15F-6 and 20F-6 "FLUORESCENT" VIPOWERS



CHASSIS SPACE MODELS 15F6 and 20F6
2-5/8" x 4-7/8"—4-1/2" high

The Radiart 15F6 and 20F6 Fluorescent VipoPowers are designed to operate the new 15 watt and 20 watt fluorescent lamps from 6 volts D.C. to 110v A.C. These vipoPowers contain a reactor and are designed for use with Neon starter buttons. Because the Neon button is normally used at the lamp, this button is not included in the VipoPower.

The flat-topped vibrator waveform produces a good light, while this waveform and the vibrator's frequency of 105 cycles combine to minimize stroboscopic effect.

These VipoPowers are controlled by a 3-position switch which applies 6 volts D.C. and 110 volts A.C. and has an "off" position in the center.

Battery drain of the 15F6 at 6.0 v. is 3.5 amps., of the 20F6, 4.4. amps.

List price, 15F6 VipoPower for 15 watt fluorescent lamp—\$13.50.

List price, 20F6 VipoPower for 20 watt fluorescent lamp—\$14.00.

LIST PRICES RADIART VIPOWERS

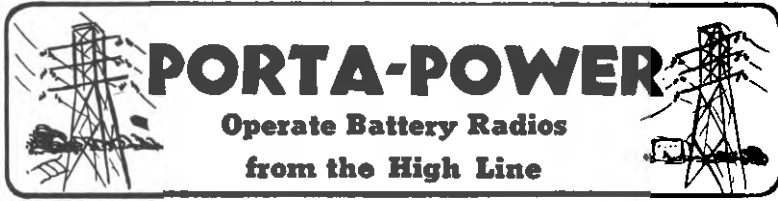
Model	Input Voltage D. C.	Rated Output, Watts	List Price	Replacement Vibrator
4200D	6	30	\$16.50	4256
4200D-12	12	30	17.50	4256-12
4200D-32	32	30	17.50	4256-32
4200DF	6	30	21.50	4256
4200DF-12	12	30	22.50	4256-12
4200DF-32	32	30	22.50	4256-32
4201	6	30	16.00	4254
4201-12	12	30	17.00	4254-12
4201-32	32	30	17.00	4254-32
4201-B	6	12 1/2	20.00	4255-H
4201-B2	6	12 1/2	26.50	4251-H
4201-B21	6	12 1/2	27.50	4251-H
4201-B22	6	12 1/2	27.50	4251-H
4202D	6	60	34.50	4256
4202D-12	12	60	35.50	4256-12
4202D-32	32	60	35.50	4256-32
4203D	6	30	17.00	4258
4203D-12	12	30	18.00	4258-12
4203D-32	32	30	18.00	4258-32
4204	6	15	14.00	4257
4204-12	12	15	15.00	4257-12
4204-32	32	15	15.00	4257-12
4204F	6	15	18.25	4257
4204F-12	12	15	19.25	4257-12
4204F-32	32	15	19.25	4257-32
4205D	6	100	49.50	4256
15F6	6	15	13.50	4251
20F6	6	20	14.00	4251

Radiart engineers invite consultation on any phase of police or other mobile communications technique. New vibrators, power packs and antennae are constantly being developed for special applications in this field, and your ideas are welcome, always.



VIBRATOR POWER AT ITS BEST AND MOST POWERFUL





PLUG All GTC Porta-Power

Take advantage of the high lines — A necessity wherever rural electrification has come, or portable radios are owned.

Convert Battery Radios to 105-125 volt, 50-60 cycle lines

Supply all needed power to convert radios to ALL-ELECTRIC operation. Provide constant peak source of completely filtered, hum-free power at a small fraction of the cost of batteries

Model "P"

FOR 6 VOLT RADIOS
"TWIN-POWERED"



CONVERTS 98% OF ALL 6 VOLT RADIOS

Vibrator disturbance is eliminated and high fidelity performance assured by sensational new design having two separate sources; one for the vibrator and one for the filaments.

Provides two sources of 6 volts at 1½ amps. or connected in parallel 3 amps—Screw type terminals.

List..... **\$13⁹⁵**

Shipping weight approximately 8 lbs. (Size: 3¾" x 6½" x 5½")

Model "U"

FOR 1½ VOLT PORTABLE OR FARM RADIOS of 4 or 5 TUBES



Universal sockets for all types of battery plugs. May be used in any position. Will fit the battery compartment of 99% of all portables.

Small enough to be installed permanently in many, in addition to the batteries.

Light weight for portable operation. Great economy for home use.

PROVIDES:
"A"—1.5v at 200 m.a.
"B"—90v at 13 m.a.

List..... **\$7⁵⁰**

Shipping weight approximately 4 lbs. (Size: 2" x 3½" x 6")

Model "L"

for 2 VOLT RADIOS

Supplies "A", "B" and "C" Power to 4 to 8 tube sets designed for 3 volt Dry Battery, 2.5 volt Air Cell, or 2 volt Storage Cell "A" Power.

PROVIDES:

"A"—2v, D.C.
"B"—67½, 90, 112½, 135v (Can be adapted for 45 volts)
"C"—1½ to 22½v, (2 or 3 "C" voltages if necessary.)

Screw Type Terminals

Shipping weight approximately 6 lbs. (Size: 6 1/16" x 4" x 5½")



List..... **\$9⁹⁵**

Model "G"

for 1½ volt radios of 4, 5 or 6 tubes requiring more power than model "U" provides.

PROVIDES:

"A"—1.5v at 200 m.a.
1.35v at 250 m.a.
1.55v at 300 m.a.
1.35v at 350 m.a.
"B"—90v at 13 m.a.
101v at 8.5 m.a.



List..... **\$9⁵⁰**

Shipping weight approx. 5 lbs. (Size: 3 9/16" x 6 1/16" x 4 13/16")

Models "P" & "L" Easily Installed by any Serviceman

It's PLUG IN and PLAY with MODELS "U" & "G"

110 VOLT AC ANYWHERE WITH KATOLIGHT!

CONTINUOUS DUTY RUGGEDLY CONSTRUCTED ECONOMICAL PORTABLE

Designed for sound trucks, homes, cottages, trailers, farms or any place where plant is desired for running many hours daily and expected to give years of trouble-free service.

KATOLIGHT PLANTS are the result of years of actual experience in the light plant field; the result of much laboratory and actual field tests. The engine that will give the best performance is selected for each model. Engine manufacturers are known internationally and maintain service stations in key cities in U.S., Canada and foreign countries. The user is assured of service and parts from authorized service stations.

NOTE: All Katolight plants are completely filtered and shielded for radio operation.

KATOLIGHT PLANTS are already to go by simply adding a little gasoline and oil and connecting to the lines; complete with engine, generator, base, fuel tank, instruction manual, hand crank (with exception of 19A & 23A which come furnished with push button start on plant and convenient rope crank), nothing else required.

Light Weight Portable High Speed Katolight Jr. Plant for Intermittent Service Operation

JRA3, JR35, JR55, JR10—These plants may be run 24 hours at a time but they are not recommended for home lighting. Ideal for operating Radio Amateur equipment, floodlights, portable electric drills, saws, etc. Select models 19A, 23A, etc. for home lighting, sound trucks, etc.

BATTERY CHARGERS

JR32, JDS12 & JDS6—Ideal for hooking on to automobile, truck, radio or tractor battery. A completely discharged battery in good condition can be charged up about 4 to 6 hours. A battery may be restored to usefulness in from ½ to 1 hour's time. Furnished with starting switch, cutout, ammeter, cables, clips, carrying handle and emergency rope crank. Have Battery Ignition engines but can be equipped with Magneto Ignition Engine at \$6.00 list extra.

CONTROLS & ACCESSORIES FOR KATOLIGHT PLANTS

IMPORTANT FEATURE:—Any of the standard controls can be attached or changed on Katolight Plants up to and including 3500 watt capacity—do not have to be ordered with plant. Each control includes battery, cutout, DC ammeter showing amount of battery charge, battery charge control resistor which permits adjusting charging current to suit needs, 25-ft. wire and one push button control station furnished with remote control.

19A & 23A & Battery Chargers only furnished complete with push button starter right on plant including cutout, battery charge control resistor, start push button and battery cables, but no electric choke. If remote or full automatic control is desired on these models, extra must be added as shown. **ELECTRIC CRANKING ONLY** is available on the DIESEL plants; cannot be furnished with full automatic or remote control.

Write for information on sizes up through 10,000 watts capacity. Available for 32, and 110-volts D.C.

110 VOLTS A.C. — 1800 R.P.M.

Watts Capacity	Model No.	Type of Cooling	Make of Engine	No. Cyl.	Engine H.P.	Cranking Volts	Shp. Wgt.	Code Word	List Price	DEALER'S NET
A.C.										
350	19A	Air	Johnson	1	1 ½	6	125	ABODE	\$97.00	\$72.65
500	23A	Air	Johnson	1	1 ¼	6	133	ABTOL	150.00	112.50
600	14A	Air	B & S	1	1.4	12	170	ALBERT	200.00	150.00
1,000	26A	Air	B & S	1	2	12	295	ABBOT	290.00	217.50
1,500	28A	Air	B & S	1	3	12	340	ABEAR	350.00	262.50
2,000	30A	Air	B & S	1	4	12	360	ABIDE	430.00	322.50
2,000	31A	Air	Stover	2	5	12	390	ACTION	460.00	345.00
2,250	35A	Water	Stover	2	5	12	510	ALAN	520.00	390.00
3,500	43A	Water	Stover	2	10	6	800	ALAS	695.00	521.25
5,000	45A	Water	LeRol	4	18	6	890	ALBION	848.00	636.00
7,500	47A	Water	LeRol	4	19	6	1290	ALBON	1216.00	912.00
10,000	49A	Water	LeRol	4	26	6	1680	ALBUN	1316.00	987.00

*Briggs & Stratton.

110 VOLT LIGHT WEIGHT—3600 R.P.M.—JUNIOR PLANTS

A.C.	Model	Cooling	Engine	Cyl.	H.P.	Volts	Wgt.	Code	List Price	Net
300	JR35	Air	Lauson	1	¾	6	80	KORT	\$98.00	78.50
400	JRA3	Air	Lauson	1	1	rope	80	KROST	89.80	67.20
550	JR55	Air	Lauson	1	1 ½	rope	115	KATE	130.00	97.50
D.C.										
400	JR10	Air	Lauson	1	¾	rope	80	KIDE	78.00	58.50

6-12 AND 32-VOLT BATTERY CHARGERS

Model	Cooling	Engine	Cyl.	H.P.	Volts	Wgt.	Code	List Price	Net
300	JR32	Air	Lauson	1	¾	32	KODE	\$91.00	\$61.67
250	JDS12	Air	Lauson	1	¾	12	KARE	68.50	44.50
240	JDS6	Air	Lauson	1	¾	6	KARS	68.50	44.50

110-VOLT DIESEL LIGHT PLANTS WITH RADIATOR

Model	Cooling	Engine	Cyl.	H.P.	Volts	Wgt.	Code	List Price	Net
2,000	82A	Water	Stover	1	5	30	KAST	\$842.00	\$673.60
3,500	83A	Water	Stover	1	7 ½	30	KASTO	984.00	787.72
5,000	85A	Water	Stover	1	10	30	KASTOR	1260.00	1008.00
8,000	88A	Water	Stover	1	15	30	KASTON	1815.00	1452.00

CONTROLS AND ACCESSORIES FOR PLANTS

40-FT. REMOTE CONTROL for stopping and starting 40-ft. or less away from plant...	\$20.00	\$15.00
500-FT. REMOTE CONTROL for stopping and starting 500-ft. or less away from plant...	35.00	26.25
FULL AUTOMATIC CONTROL, automatically starts & stops plant as load is turned on & off	90.00	67.50
SPECIAL MUFFLER FOR SOUND TRUCKS	9.00	6.75
START AND STOP CONTROL STATIONS—Each	1.10	.83
SPECIAL THREE-WIRE CONDUCTOR CABLE—Per foot	.03 ½	NET
TWO-COMPARTMENT TANK for starting on gasoline and running on kerosene	8.00	6.00
DIESEL ELECTRIC STARTING, includes cables, DC ammeter, cutout, charge control	27.50	22.00

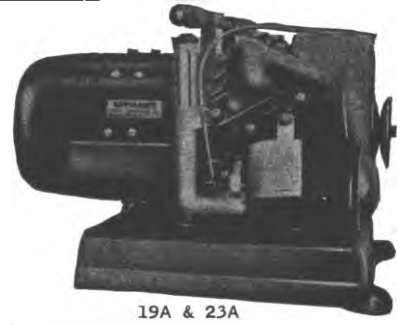
KATO ROTARY CONVERTERS-3600 R.P.M.-Ball Bearing For changing 32, 110 or 220v. D.C. to 110v. 60-cycle A.C. SPECIFY D.C. VOLTAGE WHEN ORDERING

Output Watts	MODEL No.	110v.	Shp. Wgt.	List less Filter*	DEALERS NET	List w. Filter*	DEALERS NET
80	10	20	30	\$38.00	\$22.80	\$43.00	\$25.80
110	131	221	30	40.00	24.00	46.00	27.60
150	181	261	30	44.00	26.40	51.00	30.60
200	231	311	44	49.00	29.40	56.00	33.60
250	281	361	44	55.00	33.00	61.50	36.90
300	331	461	60	61.50	36.90	71.50	42.90

1800 R.P.M.—Ball Bearing

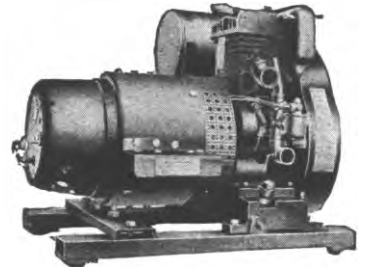
500	611	S611	130	135.00	81.00	160.00	96.00
750	961	S961	140	155.00	93.00	180.00	108.00
1000	1110	S1110	150	195.00	117.00	210.00	126.00
1500	1610	S1610	220	289.00	173.40	313.00	187.80

*Filter necessary for radio operation only. SPECIFY if not wanted when ordering.



19A & 23A

The 19A is a combination 350 watt 110-volt 60-cycle A.C. or 200 watt 6-volt battery charger. Complete with start and stop push button, battery cables, D.C. ammeter, charge control resistor, cutout, cast aluminum one gallon gas tank base, convenient carrying handle, four cycle aircooled ½ h.p. Johnson engine, 1800 r.p.m. aircleaner, ignition shielded and generator filtered. Runs 8 to 12 hours on a gallon of gasoline. Requires 6-volt battery only if self-cranking is desired. The 23A, 500 watts A.C. or 200 watts at 6-volts D.C., has same specifications as the 19A and is powered with a Johnson 1 h.p. engine.



14A

Similar appearance of 600, 1000, 1500 and 2000 watt models. The 14A has a capacity of 600 watts, 110-volts, 60-cycles A.C. It is approximately 19" wide by 21" high by 22 ½" long and weighs approximately 161-pounds. These are very ruggedly constructed, continuous duty models, ideal for home lighting, sound trucks, farms, cabin camps, resorts, filling stations, and for innumerable other purposes. These models will give many years of trouble-free service.



JRA3

Junior models are light weight, portable, ideal for radio amateur operation and other intermittent duty service. Powered with single cylinder four cycle aircooled engine, vertical engine with L head, sensitive flyball type governor, splash lubrication, float feed Zenith carburetor. Generator filtered and ignition shielded. Complete with carrying handle, muffler, instruction manual.

The JRA3, 400 watt, 110-volt A.C., plant is the plant that has made hits with "hams"—excellent voltage and frequency regulation, easy to carry around, will run 10 hours on a gallon of gasoline.



EICOR

Power Plants * Converters * Dynamotors

"Utilite" Gas-Electric Plants

famous for dependability and economy!

Ideal power supply for portable or standby use—for farms, camps, sound trucks, fire departments, boats, trailers, construction work. AC or DC models for all standard voltages. Push button starting standard on AC and Battery Charging units. Built-in remote control available on AC types. All plants have rope pull. Easily installed—simple, safe and economical to operate. Plenty of power—with ample reserve for overload. World-famous engine. Each plant complete with ignition shielding and radio filter.



EICOR POWER PLANTS

TYPE	OUTPUT				METERS	NET WT.	CODE	LIST PRICE
	AC		DC					
	VOLTS	WATTS	VOLTS	WATTS				
3AP6	110	300	6	200	AC Voltmeter	97 lbs.	GIANT	\$83.50
3AR6	110	300	6	200	AC Voltmeter DC Ammeter	100 lbs.	GAVEL	105.75
3DP2			6 12	200 350	AC Voltmeter	87 lbs.	GLOBE	65.95
3DP3			32	350	DC Ammeter	87 lbs.	GUIDE	73.75
3DM1			110	350	DC Voltmeter	87 lbs.	GRACE	77.50
4AP6	110	450	6	200	AC Voltmeter	107 lbs.	GABLE	129.50
4AR6	110	450	6	200	AC Voltmeter DC Ammeter	110 lbs.	GAUNT	154.25
6AP1	110	600	12	250	AC Voltmeter	122 lbs.	GUEST	190.00
6AR1	110	600	12	250	AC Voltmeter	125 lbs.	GORGE	220.00
10AP1	110	1000	12	250	AC Voltmeter	175 lbs.	GAUGE	264.95
10AR1	110	1000	12	250	AC Voltmeter DC Ammeter	178 lbs.	GALOP	294.50

Others also available. For complete details and listing write for Bulletin G2.

Eicor Rotary Converters

Convert direct current to alternating current for amplifiers, projectors, phonographs, radio receivers, transmitters, medical equipment, musical instruments, and other applications. Available for operation on any DC voltage—and have standard AC output. With or without filter. You get highest efficiency, quiet operation, long life—more economically than ever before!

3600 RPM TWO POLE

TYPE No.	INPUT		OUTPUT VOLTS—AMPS.	WITHOUT FILTER		WITH FILTER	
	VOLTS	AMPS.		LIST	CODE	LIST	CODE
131	32	7.6	150	\$39.00	CAULK	\$46.00	CYNIC
132	32	11.0	225	47.50	CAROL	55.50	CRIMP
133	32	15.	300	57.50	CATER	67.00	CROCK
134	32	22.	450	73.00	CAUSE	82.50	CLEAR
136	115	2.1	150	39.00	CHASM	46.00	CRAPE
137	115	3.1	225	47.50	CHECK	55.50	COZEN
138	115	3.7	300	57.50	CHILD	67.00	COUPE
139	115	5.6	450	73.00	CHIEF	82.50	CABOT

Other standard Eicor Converters available including types for 6, 12, and 230 Volts DC Input. For complete listing—send for Bulletin C1.



EICOR CONVERTERS

Eicor Dynamotors

Widely used in important Aircraft, Police, Amateur, Broadcast and Marine radio equipment. Smooth, continuous, trouble-free performance even under severe operating conditions! Practically no filtering necessary. AC ripple reduced to absolute minimum. Eicor Dynamotors are the lightest in weight per watt output—and are available from the smallest in size to the largest in output. There's a size for every need!

TYPE NO.	OUTPUT		INPUT		DUTY	NET WT.	CODE	LIST PRICE
	VOLTS	MA	VOLTS	AMPS.				
108	350	150	6	16.0	Con.	5 3/4 lbs.	BOATS	\$82.50
109	400	150	6	17.0	Con.	7 3/8 lbs.	BLUMA	52.00
161	500	200	12	13.5	Int.	7 3/8 lbs.	BRAND	64.00
163	500	400	12	26.0	Int.	13 lbs.	BLISS	105.00
170	1050	400	12	56.0	Int.	31 lbs.	BELGA	275.00

For complete listing of Eicor Dynamotors send for Bulletin D2.



EICOR DYNAMOTORS

Thank You!

When writing for additional
information or when ordering
from sources of supply listed
in this book, please mention

*RADIO'S MASTER
ENCYCLOPEDIA*

RADIO'S MASTER ENCYCLOPEDIA

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